First Set
of
Supplementary Designs

For Insertion In

TYPICAL DESIGNS *of* TIMBER STRUCTURES

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25 *New Typical Designs* TO ADD TO YOUR LIBRARY OF TIMBER DESIGN INFORMATION DEVELOPED BY TECO ENGINEERS FOR YOUR READY REFERENCE

Compliments of

TIMBER ENGINEERING COMPANY

1319 Eighteenth Street, N. W.

WASHINGTON, D. C.

MARCH, 1943

(For instructions on inserting supplementary designs see inside)

Method of Insertion and Placement of Supplementary Designs

WHEN the reference "Typical Designs of Timber Structures" was originally published it was planned that additions in the form of supplementary designs would be furnished at a later date. The first group of books was therefore bound with the Wire-O-Type binding and when priorities stopped the use of this binding, the more recent copies were bound with plastic.

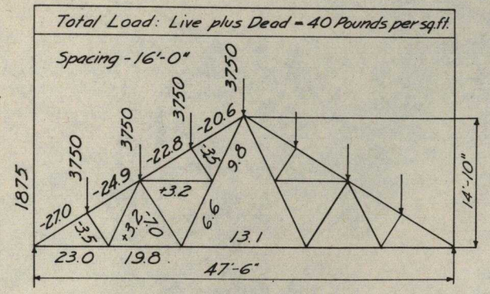
In the case of books numbered up to 25100 the Wire-O binding is used. In all the books bound in this manner, a cardboard comb will be found just inside the back cover. The sheets have been specially punched for insertion with this comb. Locate the design in its proper position according to the table below. Lay slotted edge of sheet to be inserted on top of wire rings. With teeth of comb placed over ears of slotted edge, press down until the sheet is secured by the rings. When finished with comb return it to its original position by hanging on the rings in back of the book.

For books numbered above 25100, the plastic binding has been used and the method of insertion follows the same procedure.

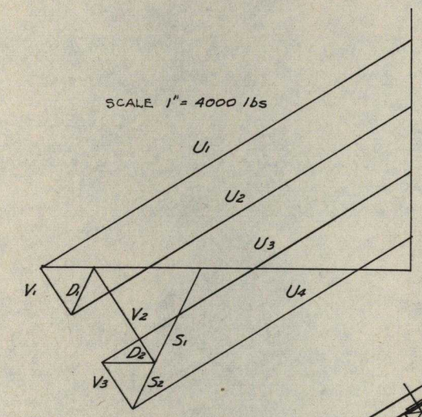
The following is a list by design number (see lower right hand corner of design) of the supplementary designs contained in this folder. This listing shows the proper placement of these designs so that they may be easily located when needed. The present designs in the book have been arranged according to type of structure and size.

Placement of Supplementary Designs

Design No.	Section of Book	Reference to Present Design Placement
356	Pitched Fink Trusses	Place between 224–235
298	" " "	" " 235–233
326	" " "	" " 233–210
295	Pitched Pratt and Belgian Trusses	Precedes 176
333	" " " " "	Follows 295
314	" " " " "	" 333
266	" " " " "	" 176
387	" " " " "	" 266
357	" " " " "	" 287
299	" " " " "	" 357
375	" " " " "	" 123
394	Flat Pratt Trusses	Precedes 31
374	" " "	Follows 31
300	" " "	" 374
376	" " "	" 221
384	" " "	" 77
254 A	Bowstring Trusses	" 8
304	Factory Trusses	" 171
246	Bridges and Trestles	" 325
B-2	" " "	" B-5
B-7	" " "	" B-2
B-9	" " "	" B-7
220	" " "	" B-9
460	Miscellaneous Heavy Timber Construction, Miscellaneous	End of book " " "



SCALE 1/8" = 1'



NOTES:

GENERAL

The top chord has been designed for combined stress. 2"x10" rafters as shown are satisfactory.

LUMBER

Lumber shall be of a structural grade with minimum allowable working stresses in pounds per sq. in. as follows:

1,000# Compression parallel to grain.
1200# Extreme fiber in bending.
1,600,000# Modulus of elasticity.

Allowable unit working stresses for commercial grades of lumber are given in the leaflet, "Working Stresses for Structural Lumber and Timber," or are available from the Regional Lumber Manufacturers Associations.

TIMBER CONNECTORS

Connectors shall be TECO split rings as manufactured by the Timber Engineering Company, Washington, D.C.

CAMBER

One inch of camber shall be put in bottom chord during fabrication.

47'-6" FINK ROOF TRUSS

Scale: 1"=1'-0"

0 1 2 3 4

Scale in Feet

MATERIALS LIST PER TRUSS

LUMBER CUTTING BILL (S4S)

Mk.	Size	Length	Make	Cut From	Order	F.B.M.
1	3"x10"	12'-0"	4	12'-0"	4	120
2	3"x10"	16'-10"	4	18'-0"	4	180
3	3"x8"	22'-8"	4	24'-0"	4	192
4	3"x6"	6'-0"	2	12'-0"	1	18
5	2"x6"	9'-0"	4	18'-0"	2	36
6	3"x8"	10'-6"	2	14'-0" / 12'-0"	1 / 1	28 / 24
7	3"x6"	8'-5"	2	18'-0"	1	27
8	3"x6"	6'-0"	2	12'-0"	1	18
9	2"x6"	17'-0"	4	18'-0"	4	72
10	3"x10"	3'-6"	2	8'-0"	1	20
11	2"x10"	3'-6"	4	14'-0"	1	24
12	3"x8"	2'-10"	1	Pc. No 6		
13	2"x8"	3'-6"	4	14'-0"	1	19
14	3"x8"	3'-6"	2	12'-0"	1	24
15	3"x8"	3'-10"	1	Pc. No. 14		
16	3"x6"	1'-7"	10	16'-0"	1	24
Total F.B.M.						826

CONNECTORS

No.	Item	Size
136	Split Rings	4"

HARDWARE

No.	Item	Size
18	Machine Bolts	3/4"x 9"
28	Machine Bolts	3/4"x 13"
84	Plate Washers	3"x 3"x 3/16"
4	Angles	3 1/2"x 3/16"-12" lg.
8	Anchor Bolts	3/4"x X"
4	Stitch Bolts	1/2"x 7"

Typical design for use of Engineers and Architects.

TIMBER ENGINEERING COMPANY
WASHINGTON, D. C.

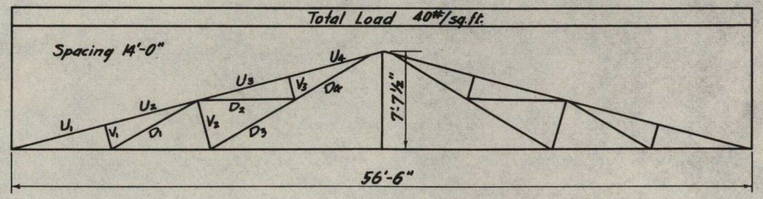
FINK ROOF TRUSS

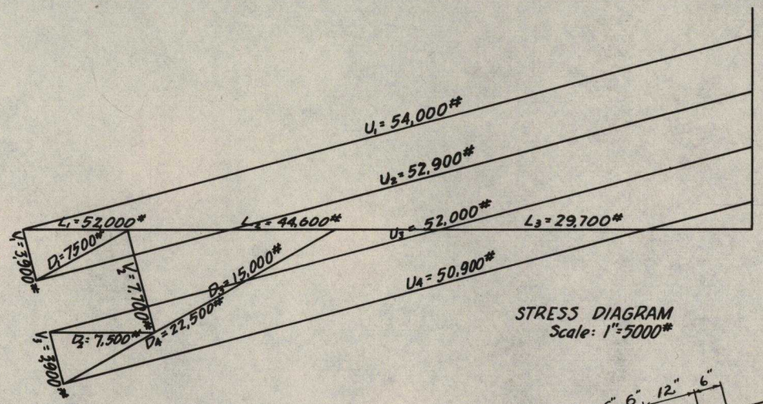
Span 47'-6" Rise 14'0"

SCALE 1"=1'-0" SHEET 1 OF 1

DESIGNED BY	E.S.L.	DATE 6/15/41
CHECKED BY	D.T.R.	2/10/42
TRACED BY	S.L.B.	3/17/42

DRAWING NO. 356





STRESS DIAGRAM
Scale: 1"=5000#

MATERIALS LIST PER TRUSS														
LUMBER CUTTING BILL														
Mk	Size	Length	Make	Cut From	Order	F.B.M.	Mk.	Size	Length	Make	Cut From	Order	F.B.M.
1	3"x12"	11'-½"	4	16'-0"	4	192	12	3"x12"	4'-0"	2	Pc. No. 1		
2	3"x12"	19'-5½"	4	20'-0"	4	240	13	3"x12"	3'-6"	1	4'-0"	1	12
3	3"x8"	18'-0"	4	18'-0"	4	144	14	2"x8"	6'-0"	4	12'-0"	2	32
4	3"x8"	17'-3"	2	18'-0"	2	72	15	3"x8"	6'-0"	2	20'-0"	1	40
5	3"x6"	3'-3"	2	16'-0"	1	24	16	2"x8"	3'-0"	4	12'-0"	1	16
6	2"x6"	9'-2"	4	18'-0"	4	72	17	3"x8"	3'-0"	2	Pc. No 15		
7	3"x6"	5'-5½"	2	12'-0"	1	18	18	3"x6"	2'-6"	4	10'-0"	1	15
8	2"x6"	6'-8"	4	14'-0"	2	28	19	3"x6"	1'-6"	2	Pc. No 5		
9	3"x6"	3'-3"	2	Pc. No 5			20	3"x12"	1'-0"	8	Pc. No. 1		
10	2"x10"	16'-7½"	4	18'-0"	4	120	21	3"x8"	1'-0"	1	Pc. No 15		
11	2"x12"	4'-0"	4	16'-0"	1	32							
											Total F.B.M.		1057

CONNECTORS		
No	Item	Size
204	Split Rings	4"

HARDWARE					
No.	Item	Size	No.	Item	Size
12	Machine Bolts	¾ x 9"	2	Plates	⅜"x2½"x6"
56	Machine Bolts	¾ x 13"	1	Threaded Rod	½"x8'-6"
136	Plate Washers	3"x3"x 3/16"			

NOTES

GENERAL

This truss has been designed for loads at top chord panel points only. Purlins 4"x12" are satisfactory.

CAMBER

The proper camber may be introduced into this truss by raising the lower chord 1½" at the center during fabrication.

LUMBER

Lumber shall be of a structural grade with minimum allowable working stresses in pounds per sq. in. as follows.

880# Compression parallel to grain.
1200# Extreme fiber in bending.
1,600,000 Modulus of elasticity.

Allowable working stresses for commercial grades are given in the leaflet "Working Stresses for Structural Lumber and Timber" or are available from the Regional Lumber Manufacturers Associations.

CONNECTORS

Connectors shall be TECO split rings as manufactured by the Timber Engineering Company of Washington, D.C.

Plate ⅜"x2½"x6"

56'-6" FINK ROOF TRUSS

Scale: ¾"=1'-0"

0 1 2 3 4

Scale in Feet

Typical design for use of Architects and Engineers.

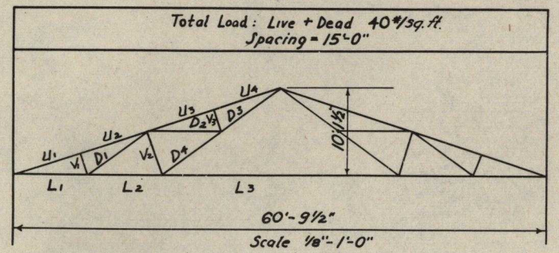
TIMBER ENGINEERING COMPANY
WASHINGTON, D. C.

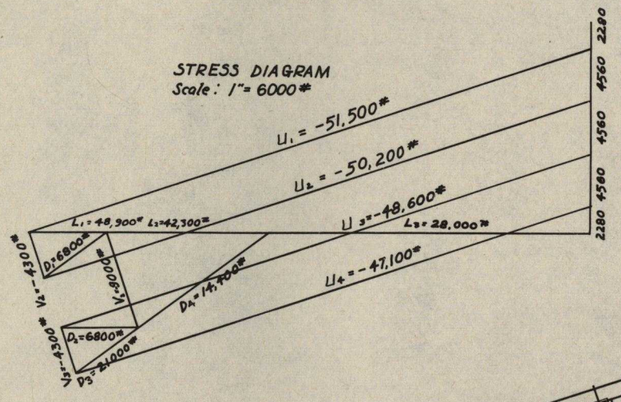
FINK ROOF TRUSS
SPAN 56'-6" RISE-7'-7½"

SCALE ¾"=1'-0" SHEET 1 OF 1

	DATE	DRAWING NO.
DESIGNED BY J.H.C.	1/9/40	298
CHECKED BY W.B.M.	12/16/41	
TRACED BY G.M.K.	12/20/41	

O.K. N.M J.H.C.
REVISED 11-4-42 D.W.





NOTES

GENERAL–

This truss is designed to carry loads at top chord panel points only.

Purlins 6"x12" are satisfactory.

LUMBER

Lumber shall be of a structural grade with minimum allowable working stresses in lbs. per sq. in. as follows:

880# Compression parallel to grain.

1200# Extreme fiber in bending.

1,600,000 Modulus of Elasticity.

Allowable stresses for commercial grades are given in the leaflet, "Working Stresses for Structural Lumber and Timber," or are available from the Regional Lumber Manufacturers Associations.

CONNECTORS–

Connectors shall be TECO Split Rings as manufactured by the Timber Engineering Company, Washington, D.C.

MATERIALS LIST PER TRUSS

LUMBER CUTTING BILL

Mk.	Size	Length	Make	Cut from	Order	F.B.M.
1	4"x10"	22'-0"	4	22'-0"	4	296
2	4"x10"	11'-3"	4	12'-0"	4	160
3	4"x6"	19'-1"	4	20'-0"	4	160
4	4"x6"	20'-0"	2	20'-0"	2	80
5	3"x6"	4'-3½"	2	18'-0"	1	27
6	2"x6"	20'-0"	4	20'-0"	4	80
7	3"x6"	7'-0"	2	14'-0"	1	21
8	3"x6"	8'-1½"	2	18'-0"	1	27
9	3"x6"	4'-1½"	2	P.C. No. 5		
10	2"x8"	17'-10½"	4	18'-0"	4	96
11	2"x10"	4'-0"	4	16'-0"	1	28
12	3"x10"	4'-0"	2	12'-0"	1	30
13	3"x12"	5'-4"	1	6'-0"	1	18
14	3"x6"	5'-0"	6	10'-0"	3	45
15	2"x6"	2'-8"	4	12'-0"	1	12
16	3"x6"	2'-8"	2	8'-0"	1	12
17	3"x10"	0'-8"	6	Pc. No. 12		
18	3"x6"	1'-6"	1	Pc. No. 16		
19	3"x6"	0'-7"	4	Pc. No. 5, 16		
20	4"x6"	2'-3"	4	10'-0"	1	20
				Total F.B.M.		1112

CONNECTORS

No.	Item	Size
164	Split Rings	4"

HARDWARE

No.	Item	Size
22	Machine Bolts	¾"x11"
36	" "	¾"x15"
12	" "	¾"x17"
2	" "	1"x15"
140 *	Plate Washers	3"x3"x5/16"
4	Steel Angles	4"x4"x⅜"x9"
1	Threaded Rod (Upset)	½"x11'-2"
2	Steel Plates	5"x8"x½"
* 4	Punched for 1" bolt	

Typical design for use of Engineers and Architects

FINK ROOF TRUSS

Scale: ¾"-1'-0"

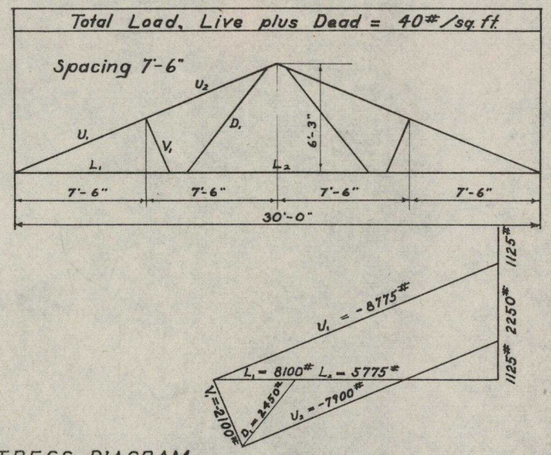
TIMBER ENGINEERING COMPANY
WASHINGTON, D. C.

FINK ROOF TRUSS
SPAN 60'-9½" RISE 10'-1½"

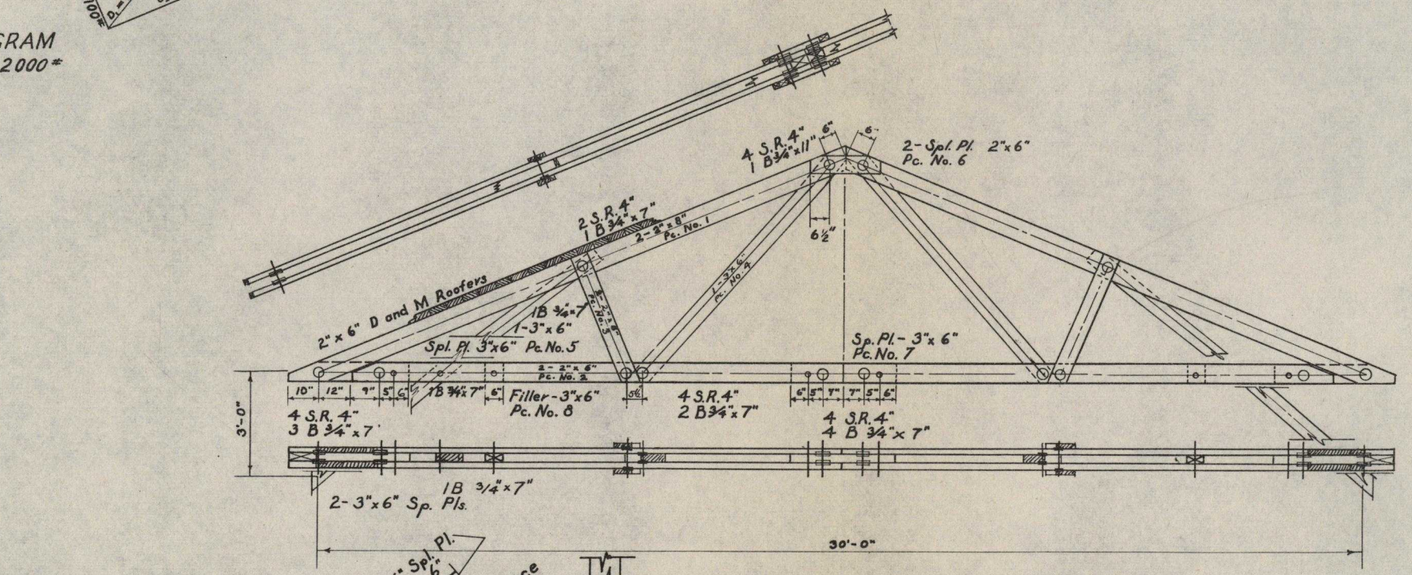
SCALE 3/4" = 1'-0" SHEET 1 OF 1

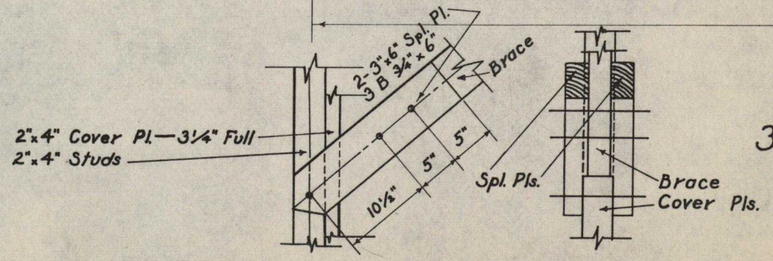
	DATE	DRAWING No.
DESIGNED BY D.S.N.	9/16/40	326
CHECKED BY W.B.M.	11/21/42	
TRACED BY J.B.T.	11/23/42	

O.K. N.M. - 11/27/42



STRESS DIAGRAM
Scale 1" = 2000#





Scale: 1½" = 1'-0"

30'-0" ROOF TRUSS

Scale: ½" = 1'-0"
0 1' 2 3
Scale in Feet

NOTES:

This truss has been designed to carry roof planking applied directly to top chords.

LUMBER-

Lumber shall be of a structural grade with minimum allowable working stresses in pounds per sq. in. as follows:
880# Compression parallel to grain.
1,200# Extreme fiber in bending.
1,600,000# Modulus of elasticity
Allowable unit working stresses for commercial grades of lumber are given in the leaflet, "Working Stresses for Structural Lumber and Timber" or are available from the Regional Lumber Manufacturers Associations.

TIMBER CONNECTORS-

Connectors shall be TECO split rings as manufactured by the Timber Engineering Company, Washington, D.C.

MATERIALS PER TRUSS

Lumber Cutting Bill

MK.	Size	Length	Make	Cut From	Order	F.B.M.
1	2"x8"	17'-3½"	4	18'-0"	4	96
2	2"x6"	14'-0"	4	14'-0"	4	56
3	2"x6"	4'-0"	4	16'-0"	1	16
4	3"x6"	8'-11½"	2	18'-0"	1	27
5	3"x6"	3'-6"	2	12'-0"	1	18
6	2"x6"	2'-0"	2	4'-0"	1	4
7	3"x6"	3'-0"	1	Pc. No. 5		
8	3"x6"	0'-6"	2	Pc. No. 5		

Total F.B.M. 217

Hardware

No.	Item	Size
18	Machine Bolts	3/4"x 7"
2	Machine Bolts	3/4"x 11'
40	Plate Washers	3"x3"x 3/16"

Connectors

No.	Item	Size
32	Split Rings	4"

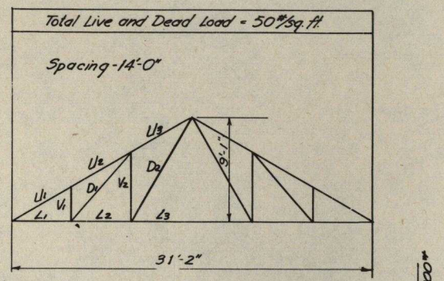
Typical Design for use of Engineers and Architects.

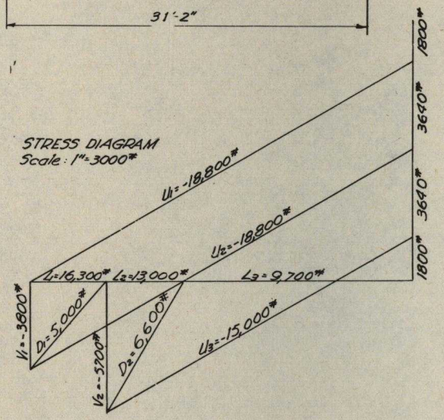
TIMBER ENGINEERING COMPANY
WASHINGTON, D. C.
PITCHED ROOF TRUSS
SPAN 30'-0" RISE 6'-3"

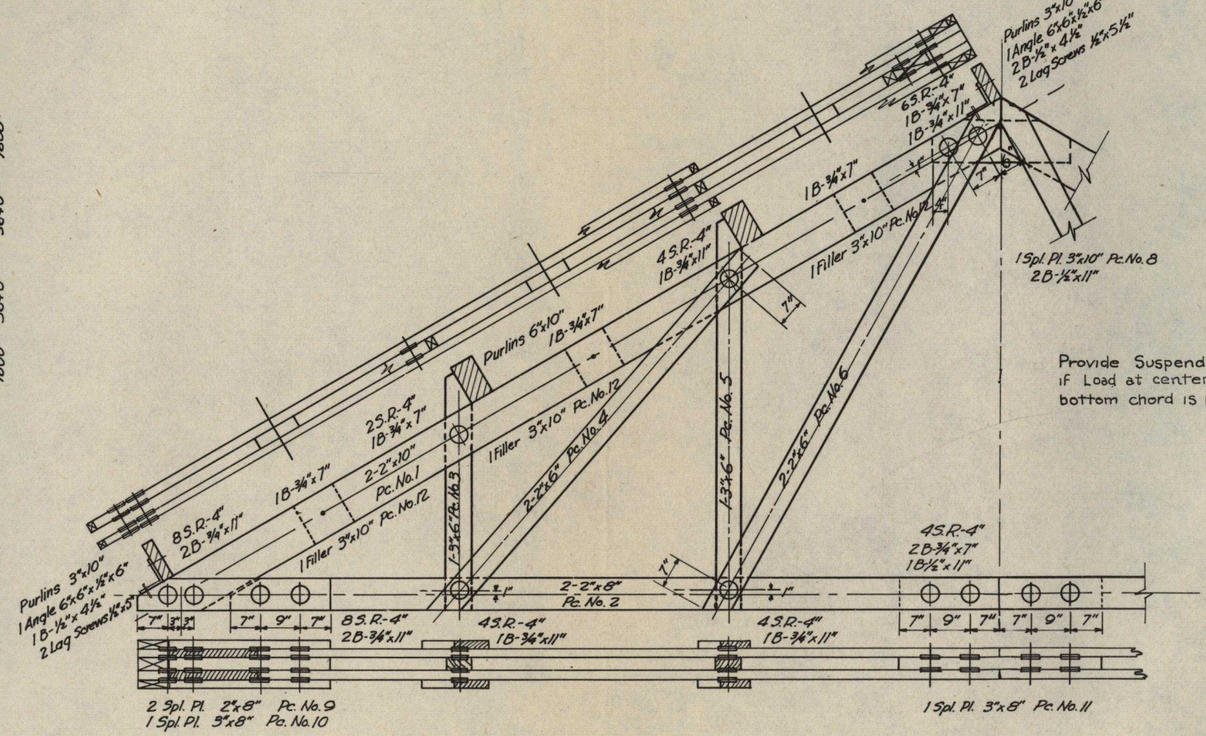
SCALE ½" = 1'-0" SHEET 1 OF 1

	DATE	DRAWING NO.
DESIGNED BY W.A.A.	10/27/39	295
CHECKED BY W.B.M.	12/12/41	
TRACED BY A.W.B.	12/29/41	

O.K., N.M. J.H.C. 10/27/39
Revised by: 11/17/42







Provide Suspender if Load at center of bottom chord is Probable

NOTES:

GENERAL-

This truss has been designed for loads at top chord panel points only.

LUMBER-

Lumber shall be of a structural grade with minimum allowable working stresses in lbs. per sq. in. as follows:

880# Compression parallel to grain
1200# Extreme fiber in bending.
1,600,000# Modulus of Elasticity

Allowable unit working stresses are given in the leaflet "Working Stresses for Structural Lumber and Timber" or are available from the Regional Lumber Manufacturers Associations.

CONNECTORS-

Connectors shall be TECO Split Rings as manufactured by the Timber Engineering Company, Washington, D. C.

MATERIALS LIST PER TRUSS

LUMBER CUTTING BILL

Mk.	Size	Length	Make	Cut From	Order	F.B.M.
1	2"x10"	19'-2"	4	20'-0"	4	134
2	2"x8"	14'-8"	4	16'-0"	4	80
3	3"x6"	4'-7½"	2	10'-0"	1	15
4	2"x6"	9'-2"	4	10'-0"	4	40
5	3"x6"	7'-8"	2	16'-0"	1	24
6	2"x6"	11'-4½"	4	12'-0"	4	48
8	3"x10"	2'-8"	1	8'-0"	1	20
9	2"x8"	3'-8½"	4	16'-0"	1	22
10	3"x8"	3'-8½"	2	12'-0"	1	24
11	3"x8"	3'-10"	1	Pc. No. 10		
12	3"x10"	0'-10"	6	Pc. No. 8		
				Total F.B.M. - 413		

CONNECTORS

No.	Item	Size
80	Split Rings	4"

HARDWARE

No.	Item	Size
4	Machine Bolts	½"x11"
14	" "	¾"x 7"
16	" "	¾"x11"
8	Plate Washers	2"x2"x⅛"
60	" "	3"x3"x3/16"

31'-2" PRATT TRUSS

Scale: ¾" = 1'-0"

0 1 2 3 4

Scale in Feet

Typical design for use of Engineers and Architects.

TIMBER ENGINEERING COMPANY
WASHINGTON, D. C.

PRATT TRUSS

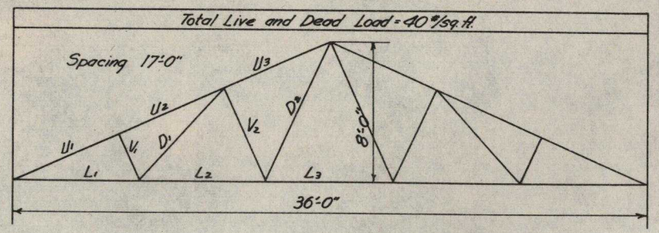
SPAN: 31'-2" RISE: 9'-1"

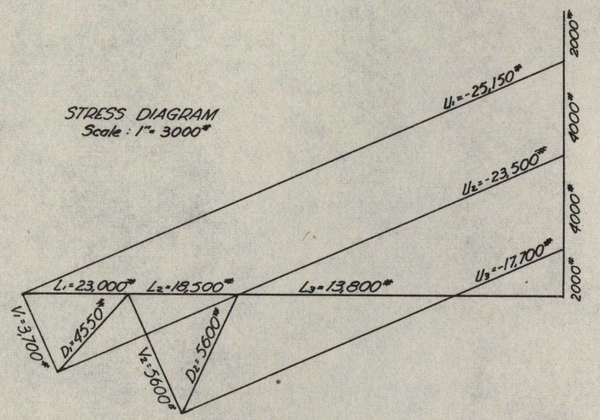
SCALE ¾" = 1'-0" SHEET 1 OF 1

DESIGNED BY D.S.H. 3/5/41
CHECKED BY W.B.M. 2/2/42
TRACED BY W.W.A. 152/3/42

DRAWING NO. 333

O.K. N.M. 2/2/42





36'-0" BELGIAN ROOF TRUSS

Scale : ¾" = 1'-0"

0 1 2 3

Scale in feet

NOTES:

GENERAL-

This truss has been designed for loads at top chord panel points only. Purlins 6"x10", with 2" D and M roofers, are satisfactory.

LUMBER-

Lumber shall be of a structural grade with minimum allowable working stresses in lbs. per sq. in as follows:

880# Compression parallel to grain.
1200# Extreme fiber in bending.
1,600,000# Modulus of Elasticity.

Allowable unit working stresses for commercial grades are given in the leaflet, "Working Stresses for Structural Lumber and Timber," or are available from the Regional Lumber Manufacturers Associations.

TIMBER CONNECTORS

Connectors shall be TECO Split Rings as manufactured by the Timber Engineering Company, Washington, D.C.

MATERIALS LIST PER TRUSS

LUMBER CUTTING BILL

Mk.	Size	Length	Make	Cut From	Order	F.B.M.
1	3"x8"	20'-7"	4	22'-0"	4	176
2	3"x6"	11'-2"	4	12'-0"	4	72
3	3"x6"	12'-0"	2	12'-0"	2	36
4	3"x6"	4'-3"	2	12'-0"	2	18
5	2"x6"	8'-0"	4	18'-0"	4	72
6	3"x6"	7'-2"	2	Pc. No. 4		
7	2"x6"	9'-6 1/2"	4	Pc. No. 5		
8	2"x6"	3'-0"	4	12'-0"	1	12
9	3"x6"	3'-0"	2	12'-0"	1	18
10	2"x6"	2'-10"	4	12'-0"	1	12
11	3"x6"	2'-10"	2	Pc. No. 9		
12	3"x8"	3'-0"	1	4'-0"	1	8
13	3"x8"	0'-8"	6	Pc. No. 1		
14	3"x6"	0'-6"	2	Pc. No. 2		
				Total F.B.M. 424		

CONNECTORS

No.	Item	Size
84	Split Rings	4"

HARDWARE

No.	Item	Size
8	Machine Bolts	¾"x 9"
26	" "	¾"x 13"
60	Plate Washers	3"x 3"x ⅜"
4	Steel Angles	5"x 5"x ⅜"x 9"

Typical design for use of Engineers and Architects.

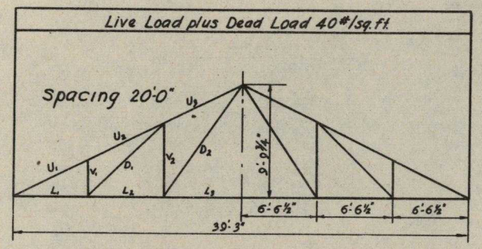
TIMBER ENGINEERING COMPANY
WASHINGTON, D. C.

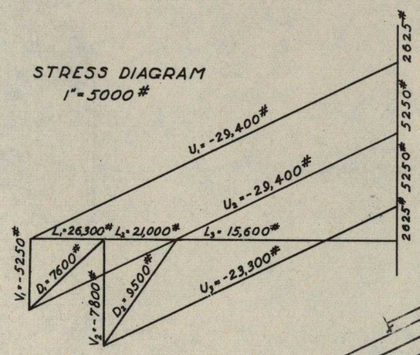
BELGIAN ROOF TRUSS
SPAN 36'-0" RISE 8'-0"

SCALE ¾" = 1'-0" SHEET 1 OF 1

	DATE	DRAWING No.
DESIGNED BY D.S.H	3/14/40	314
CHECKED BY W.B.M.	12/29/41	
TRACED BY D.S.	1/3/42	

O.K.N.M. W.B.M





39'-3" PRATT TRUSS

Scale 1"=1'-0"

0 1 2 3 4 5

Scale in Feet

NOTES

GENERAL

This truss is to be used with purlins at panel points only. Purlins 6"x12" are satisfactory.

LUMBER

Lumber shall be of a structural grade with minimum allowable working stresses in pounds per sq. in as follows:

880# Compression parallel to grain
1200# Extreme fiber in bending
1,600,000 Modulus of Elasticity

Allowable unit working stresses for commercial grades of lumber are given in the leaflet "Working Stresses for Structural Lumber and Timber", or are available from the Regional Lumber Manufacturers Associations.

TIMBER CONNECTORS

Connectors shall be TECO split rings as manufactured by the Timber Engineering Company, Washington, D.C.

MATERIALS LIST PER TRUSS

LUMBER CUTTING BILL (S4S)

Mk.	Size	Length	Make	Cut From	Order	F.B.M.
1	3"x8"	22'-9"	4	24'-0"	4	192
2	3"x6"	18'-11"	4	20'-0"	4	120
3	3"x6"	4'-8"	2	14'-0"	1	21
4	2"x6"	10'-6½"	4	24'-0"	4	96
5	3"x6"	7'-11"	2	20'-0"	1	30
6	2"x6"	12'-7"	4	Pc. No. 4		
7	2"x6"	2'-11"	4	12'-0"	1	12
8	3"x6"	2'-11"	2	Pc. No. 3		
9	3"x8"	2'-8"	1	10'-0"	1	20
10	3"x6"	3'-0"	1	Pc. No. 5		
11	3"x8"	0'-8"	6	Pc. No. 9		
Total F.B.M. 491						

CONNECTORS

No.	Item	Size
84	Split Rings	4"

HARDWARE

2	Machine Bolts	1"x13"
12	Machine Bolts	¾"x9"
16	"	¾"x13"
52	Plate Washers	3"x3"x3/16
4	Angles	4"x6"x⅜-8'-8½"

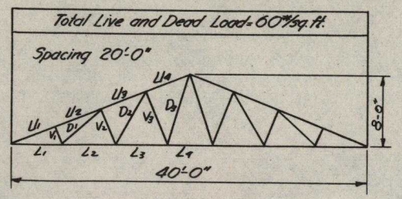
Typical Design for use of Engineers and Architects

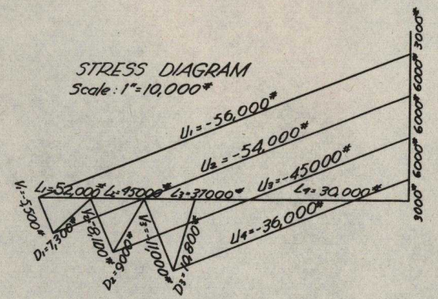
TIMBER ENGINEERING COMPANY
WASHINGTON, D. C.

PRATT TRUSS
SPAN-39'-3" CENTER HGT 9'-0¾"

SCALE 1"=1'-0" SHEET 1 OF 1

	DATE	DRAWING NO.
DESIGNED BY J.H.Carr	5/15/37	266
CHECKED BY A.G.D.	10/23/41	
TRACED BY R.W.A.	10/20/41	
O.K. N.M. A.G.D.	10/25/41	
REVISED D.W.	11/12/42	





40'-0" BELGIAN TRUSS

Scale: 1" = 1'-0"

0 1 2 3

Scale in feet

NOTES:

LUMBER–

Lumber shall be of a structural grade with minimum allowable working stresses in lbs. per sq. in. as follows:

880# Compression parallel to grain.

1200# Extreme fiber in bending.

1,600,000# Modulus of Elasticity

Allowable unit working stresses for commercial grades are given in the leaflet "Working Stresses for Structural Lumber and Timber" or are available from the Regional Lumber Manufacturers Associations.

CONNECTORS–

Connectors shall be TECO Split Rings as manufactured by the Timber Engineering Company, Washington, D.C.

MATERIALS LIST PER TRUSS

LUMBER CUTTING BILL

Mk.	Size	Length	Make	Cut From	Order	F.B.M.
1	4"x10"	13'-9½"	4	14'-0"	4	188
2	4"x10"	8'-0"	4	16'-0"	2	108
3	4"x8"	17'-10½"	4	18'-0"	4	192
4	3"x6"	4'-1½"	2	18'-0"	2	54
5	3"x6"	6'-10"	4	Pc. No. 4		
6	3"x6"	6'-5"	2	14'-0"	1	21
7	3"x6"	8'-0"	4	16'-0"	2	48
8	3"x8"	8'-9"	2	18'-0"	1	36
9	3"x6"	9'-4"	4	20'-0"	2	60
10	3"x8"	4'-0"	10	20'-0"	2	80
11	3"x10"	3'-6"	10	18'-0"	2	90
12	3"x10"	4'-6"	3	20'-0"	1	50
13	3"x8"	4'-0"	3	12'-0"	1	24
14	3"x10"	1'-6"	4	Pc. No. 12		
15	2"x8"	4'-0"	2	8'-0"	1	11
				Total F.B.M.		962

CONNECTORS		
No.	Item	Size
144	Split Rings	4"

HARDWARE		
No.	Item	Size
14	Machine Bolts	¾"x17"
8	" "	¾"x22"
6	" "	1"x17"
4	" "	1"x20"
10	" "	1"x22"
76	Plate Washers	3"x3"x3/16"

Typical design for use of Engineers and Architects.

TIMBER ENGINEERING COMPANY
WASHINGTON, D.C.

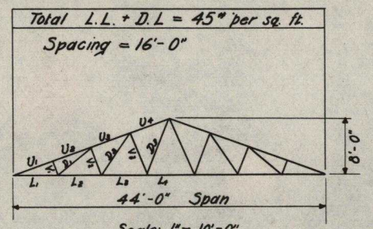
BELGIAN TRUSS
SPAN 40'-0" RISE 8'-0"

SCALE 1"=1'-0" SHEET 1 OF 1

DESIGNED BY D.S.H. 10/11/41
CHECKED BY W.B.M. 2/3/42
TRACED BY A.L.G. 2/16/42

DRAWING NO. 387

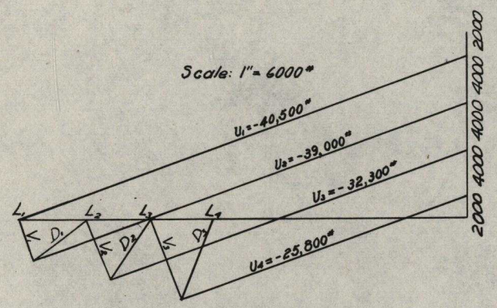
O.K. N.M.
REVISED 11-3-42 D.W.



NOTES:
LUMBER:-
Lumber shall be of a structural grade with minimum allowable working stresses in lbs. per sq. in. as follows:
880# Compression parallel to grain.
1200# Extreme fiber in bending.
1,600,000# Modulus of Elasticity.
Allowable unit working stresses for commercial grades are given in the leaflet "Working Stresses for Structural Lumber and Timber" or are available from the Regional Lumber Manufacturers Association
CONNECTORS:-
Connectors shall be TECO split Rings as manufactured by the Timber Engineering Company Washington D. C.

MATERIALS LIST PER TRUSS						
LUMBER CUTTING BILL						
Mk.	Size	Length	Make	Cut From	Order	F.B.M.
1	3"x12"	13'-2½"	4	16'-0"	4	192
2	3"x12"	8'-11"	4	22'-0"	2	132
3	3"x8"	21'-4"	4	22'-0"	4	176
4	3"x6"	3'-0"	2	16'-0"	2	48
5	2"x6"	15'-7"	4	16'-0"	4	64
6	3"x6"	5'-1½"	2	Pc. No. 4		-
7	2"x6"	8'-5"	4	18'-0"	4	72
8	3"x6"	7'-5"	2	Pc. No. 4		-
9	2"x6"	9'-6"	4	Pc. No. 7		-
10	2"x12"	3'-6"	4	14'-0"	1	28
11	3"x12"	3'-6"	2	Pc. No. 2		-
12	3"x10"	3'-4"	1	4'-0"	1	10
13	2"x8"	3'-11"	4	16'-0"	1	22
14	3"x8"	3'-11"	2	16'-0"	1	32
15	3"x8"	3'-0"	1	Pc. No. 14		-
16	3"x8"	0'-8"	6	Pc. No. 14		-
TOTAL F. B. M. = 776						

CONNECTORS		
No.	Item	Size
128	Teco Split Rings	4"
HARDWARE		
No.	Item	Size
14	Machine Bolts	¾" x 9"
28	Machine Bolts	¾" x 13"
84	Plate Washers	3" x 3" x ⅜"



L1 = 38,000#
L2 = 32,000#
L3 = 26,300#
L4 = 21,500#
D1 = 5,700#
D2 = 6,300#
D3 = 7,500#

V1 = 3,600#
V2 = 5,500#
V3 = 7,500#

44'-0" ROOF TRUSS

Scale 1"= 1'-0"

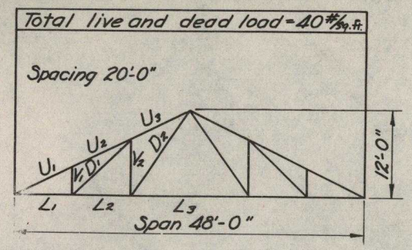
Scale in feet

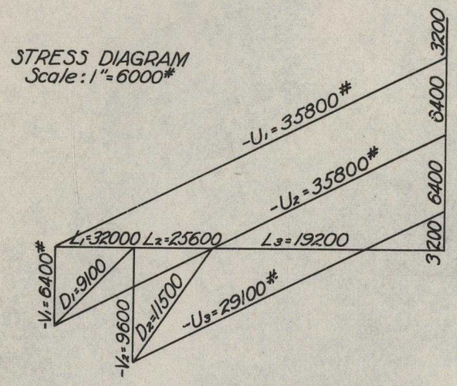
Typical design for use of Engineers and Architects

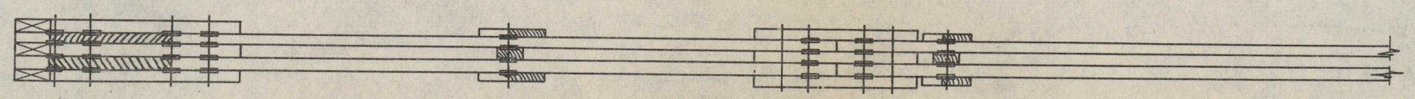
TIMBER ENGINEERING COMPANY
WASHINGTON, D. C.
44'-0" ROOF TRUSS
Span = 44'-0" Rise = 8'-0"
Scale = 1"= 1'-0" SHEET 1 OF 1

DATE	DRAWING NO.
CHECKED BY STR. 2/6/42	357
DESIGNED BY D.S.H 6/2/41	
TRACED BY E.A.I 6/2/42	

O.K. - N.M.







48'-0" PRATT TRUSS
Scale: 3/4" = 1'-0"

0 1 2 3 4
Scale in Feet

NOTES:
GENERAL
This truss is designed for loads at top chord panel points only.
LUMBER
Lumber shall be of a structural grade with minimum allowable working stresses in lbs. per sq. in. as follows:
880# Compression parallel to grain.
1200# Extreme fiber in bending.
1,600,000# Modulus of elasticity
Allowable unit working stresses for commercial grades of lumber are given in the leaflet, "Working Stresses for Structural Lumber and Timber," or are available from the Regional Lumber Manufacturers Associations.
TIMBER CONNECTORS
Connectors shall be TECO split rings as manufactured by the Timber Engineering Company, Washington, D.C.

MATERIALS LIST PER TRUSS
LUMBER CUTTING BILL (S4S)

Mk.	Size	Length	Make	Cut From	Order	F.B.M.
1	3"x12"	14'-0"	4	14'-0"	4	168
2	3"x12"	14'-2"	4	16'-0"	4	192
3	3"x8"	12'-10"	4	14'-0"	4	112
4	3"x8"	20'-3"	2	22'-0"	2	88
5	3"x6"	5'-7"	2	12'-0"	1	18
6	2"x6"	12'-8"	4	14'-0"	4	56
7	4"x6"	9'-7"	2	10'-0"	2	40
8	2"x6"	15'-3"	4	16'-0"	4	64
9	3"x8"	4'-1"	6	14'-0"	2	56
10	3"x12"	3'-6"	1	Pc. No 11		
11	3"x12"	3'-6"	6	14'-0"	2	84
12	3"x8"	3'-0"	6	18'-0"	1	36
13	3"x8"	0'-8"	4	Pc. No 3		
Total F.B.M.- 914						

CONNECTORS

No.	Item	Size
124	Split Rings	4"

HARDWARE

No	Item	Size
2	Machine Bolts	1"x 13"
8	" "	3/4"x 9"
8	" "	3/4"x 13"
24	" "	3/4"x 15"
80	Plate Washers	3"x 3"x 3/16

Typical design for use of Engineers and Architects.

TIMBER ENGINEERING COMPANY
WASHINGTON, D. C.
PRATT TRUSS
SPAN-48'-0" RISE 12'-0"

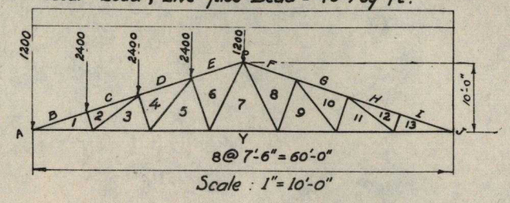
SCALE 3/4"=1'-0" SHEET 1 OF 1

DESIGNED BY J.Corr 11/20/40
CHECKED BY
TRACED BY R.N.C. 12/13/41
DATE

DRAWING No. 299

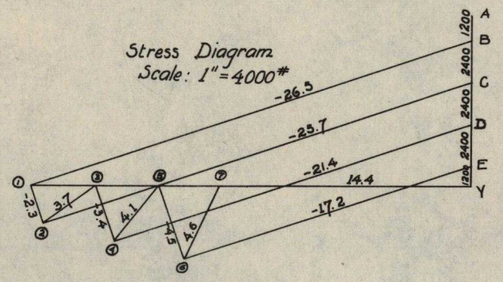
O.K.-N.M., S.H.C.
Rev. E.S.L. 10-24-42

Total Load, Live plus Dead = 40#/sq ft.



Scale : 1" = 10'-0"

SPACING 8' o.c.



MATERIALS LIST PER TRUSS

LUMBER CUTTING BILL

Mk.	Size.	Length	Make	Cut From	Order	F.B.M.
1	2x12	19'-11"	4	20'-0"	4	160.
2	2x12	12'-4"	4	14'-0"	4	112.
3	2x8	18'-2"	4	20'-0"	4	108.
4	2x8	19'-11"	2	20'-0"	2	54
5	2x6	3'-6"	2	8'-0"	1	8
6	2x6	9'-9"	4	10'-0"	4	40
7	2x8	6'-0"	2	12'-0"	1	16
8	2x6	10'-8"	4	12'-0"	4	48
9	3x6	8'-9"	2	18'-0"	1	27
10	2x6	12'-0"	4	12'-0"	4	48
11	2x8	4'-0"	6	12'-0"	2	32
12	2x12	3'-4"	6	10'-0"	2	40
13	2x10	3'-5"	1	4'-0"	1	7
14	2x8	3'-4"	6	10"-0"	2	28
15	2x12	0'-10"	6	Pc No 2		
				Total F.B.M.		728

CONNECTORS

No	Item	Size
144	Split Rings	4"

HARDWARE

10	Machine Bolts	3/4" x 6"
36	" "	3/4" x 9 1/2"
4	Anchor Bolts	3/4" x — "
76	Plate Washers	3"x3"x 3/16"
4	Angles	4"x6"x 3/8"x 4"

NOTES

GENERAL

This truss has been designed to carry planking fastened directly to the top chord.

The proper camber may be introduced by raising the lower chord 1½" at the center during fabrication.

LUMBER

Lumber shall be a structural grade with minimum allowable working stresses in pounds per square inch as follows:

880# Compression parallel to the grain
1200# Extreme fiber in bending
1,600,000# Modulus of elasticity.

Allowable stresses for commercial grades are given in the leaflet "Working stresses for Structural Lumber and Timber" or are available from the Regional Lumber Manufacturers Associations.

CONNECTORS

Timber connectors shall be TECO split rings as manufactured by the Timber Engineering Co, Washington, D.C.

BELGIAN TRUSS

Scale 3/4" = 1'-0"

0 1 2 3 4

Scale in Feet.

Typical Design for use of Engineers and Architects

TIMBER ENGINEERING COMPANY
WASHINGTON, D. C.

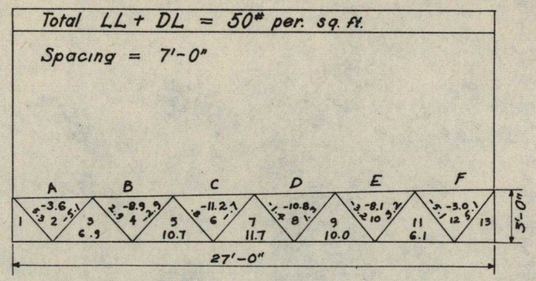
BELGIAN TRUSS
SPAN 60'-0" RISE 10'-0"

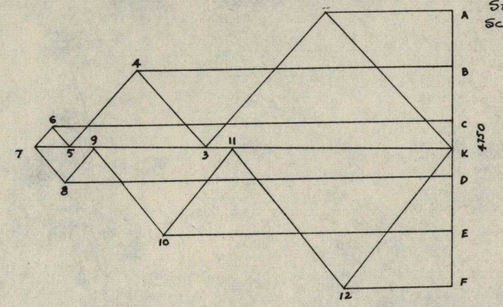
SCALE 3/4" = 1'-0" SHEET 1 OF 1

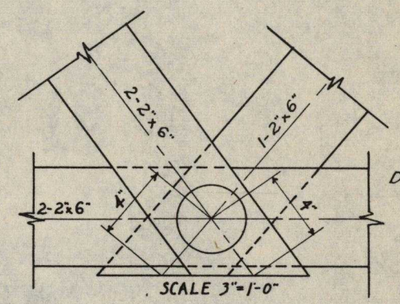
DESIGNED BY D.S.H. 8/29/41.
CHECKED BY D.T.R. 1/9/42.
TRACED BY D.C. 1/19/42

DRAWING No. 375.

O.K. N.M. D.T.R.







Detail at A

NOTES

LUMBER

Lumber shall be of a structural grade with minimum allowable working stresses in lbs. per sq. inch as follows:
880# Compression parallel to grain.
1200# Extreme fiber in bending.
1,600,000# Modulus of Elasticity.
Allowable working stresses for commercial grades of Lumber are given in the leaflet "Working Stresses for Structural Lumber and Timber," or are available from the Regional Lumber Manufacturer's Association.

CONNECTORS:

Connectors shall be TECO split rings as manufactured by the Timber Engineering Company Washington, D. C.

CAMBER.

The proper camber may be introduced into this truss by raising the lower chord 1/2" at the center during fabrication.

MATERIALS LIST PER TRUSS

LUMBER CUTTING BILL

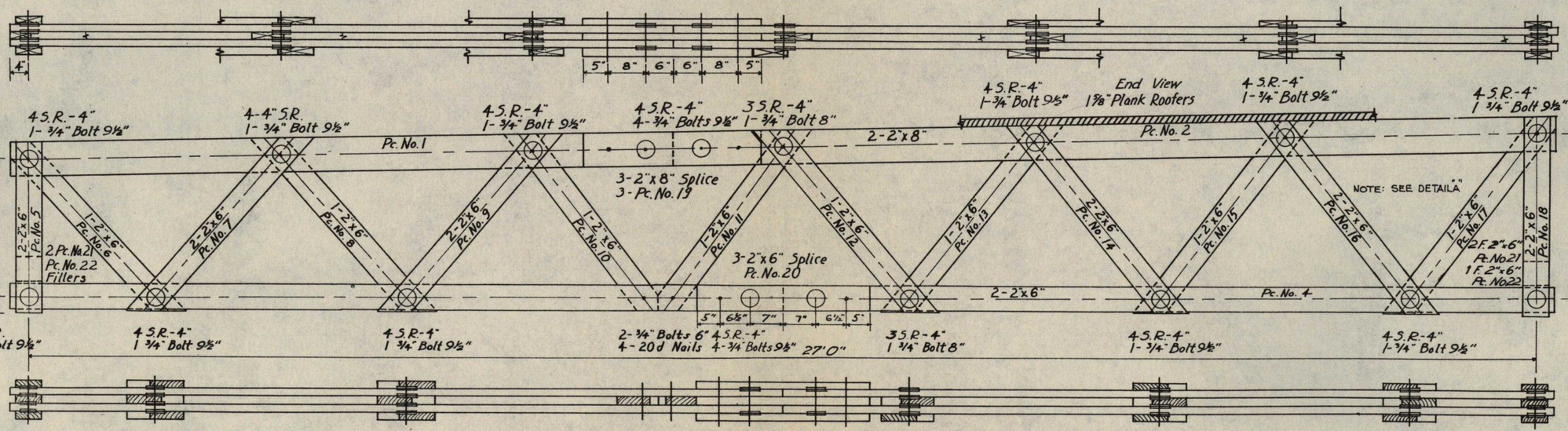
Mk.	Size	Length	Make	Cut From	Order	F.B.M.
1	2"x 8"	11'-10"	2	12'-0"	2	32
2	2"x 8"	15'-10"	2	16'-0"	2	44
3	2"x 6"	13'-10"	2	14'-0"	2	28
4	2"x 6"	13'-10"	2	14'-0"	2	28
5	2"x 6"	3'-2"	2	18'-0"	2	36
6	2"x 6"	4'-5"	1	18'-0"	1	18
7	2"x 6"	4'-7"	2	Pc. No. 5		
8	2"x 6"	4'-7"	1	Pc. No. 6		
9	2"x 6"	4'-8"	2	Pc. No. 5		
10	2"x 6"	4'-3"	1	Pc. No. 6		
11	2"x 6"	4'-3"	1	Pc. No. 6		
12	2"x 6"	4'-8"	1	20'-0"	1	20
13	2"x 6"	4'-8"	1	Pc. No. 12		
14	2"x 6"	4'-8"	2	Pc. No. 5		
15	2"x 6"	4'-8"	1	Pc. No. 12		
16	2"x 6"	4'-9"	2	10'-0"	2	20
17	2"x 6"	4'-8"	1	Pc. No. 12		
18	2"x 6"	3'-8"	2	Pc. No. 16		
19	2"x 8"	3'-2"	3	10'-0"	1	14
20	2"x 6"	3'-1"	3	10'-0"	1	10
21	2"x 6"	0'-6"	8	Pc. No. 12 & Pc. No. 5		
22	2"x 6"	1'-0"	2	Pc. No. 12		
TOTAL F. B. M. = 250						

CONNECTORS

No.	Item	Size
64	TECO Split Rings	4"

HARDWARE

No.	Item	Size
20	Machine Bolts	3/4" x 9 1/2"
2	Machine Bolts	3/4" x 6"
48	Plate Washers	3" x 3" x 3/16"
2	Machine Bolts	7/8" x 8"



27'-0" WARREN TRUSS

Scale 1"=1'-0"

Scale in feet

Typical design for use of Engineers and Architects

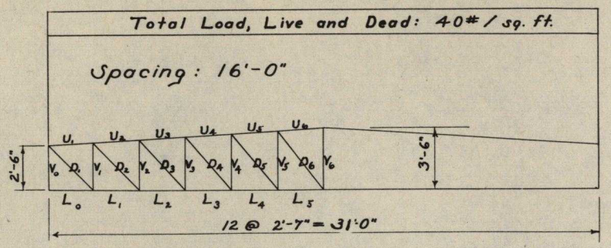
TIMBER ENGINEERING COMPANY
WASHINGTON, D. C.

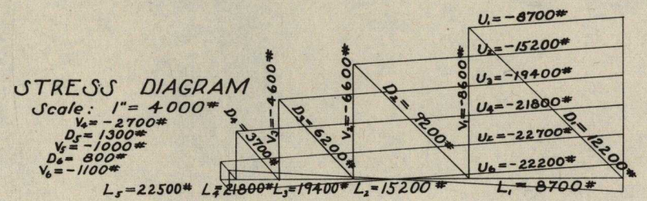
WARREN TRUSS

SPAN 27'-0" RISE 3'-0"

SCALE 1"=1'-0" SHEET 1 OF 1

DESIGNED BY E.S.L.	DATE 1-29-41	DRAWING NO. 394
CHECKED BY D.T.R.	2-6-42	
TRACED BY R.I.	2-25-42	





NOTES

LUMBER:
Lumber shall be of a structural grade with minimum allowable working stresses in lbs. per sq. in. as follows:
880# Compression parallel to grain.
1200# Extreme fiber in bending.
1600000# Modulus of elasticity
Allowable unit working stresses for commercial grades are given in the folder, "Working Stresses for Structural Lumber and Timber", or are available from the Regional Lumber Manufacturers Association.

CONNECTORS:
Connectors shall be TECO split rings as manufactured by the Timber Engineering Company, Washington, D. C.

MATERIALS LIST PER TRUSS

LUMBER CUTTING BILL

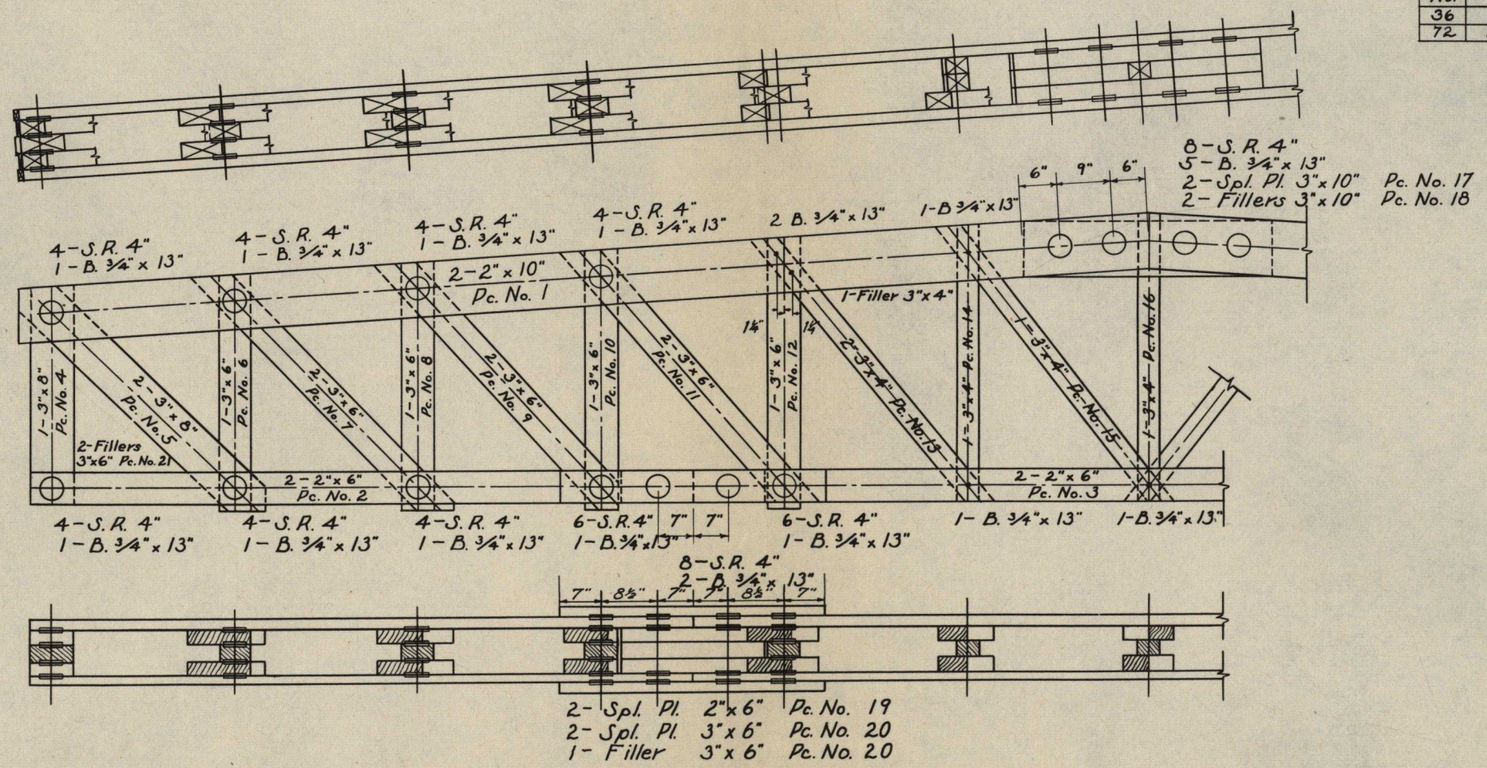
No.	Size	Length	Make	Cut From	Order	F.B.M.
1	2"x10"	15'-9½"	4	16'-0"	4	108
2	2"x 6"	9'-4"	4	20'-0"	2	40
3	2"x 6"	12'-10"	2	14'-0"	2	28
4	3"x 8"	3'-1½"	2	8'-0"	1	16
5	3"x 8"	4'-8½"	4	20'-0"	1	40
6	3"x 6"	3'-5"	2	14'-0"	1	21
7	3"x 6"	5'-0"	4	20'-0"	1	30
8	3"x 6"	3'-7"	2	Pc. No. 6		
9	3"x 6"	4'-11"	4	20'-0"	2	60
10	3"x 6"	3'-9"	2	16'-0"	2	48
11	3"x 6"	5'-1"	4	Pc. No. 9		
12	3"x 6"	3'-10½"	2	Pc. No. 10		
13	3"x 4"	5'-0"	4	20'-0"	1	20
14	3"x 4"	3'-11"	2	12'-0"	2	48
15	3"x 4"	5'-2"	2	Pc. No. 14		
16	3"x 4"	4'-1"	1	Pc. No. 14		
17	3"x 10"	3'-6"	2	10'-0"	1	25
18	3"x 10"	1'-6"	2	Pc. No. 17		
19	2"x 6"	3'-9"	4	16'-0"	1	16
20	3"x 6"	2'-0"	6	Pc. No. 10		
21	3"x 6"	0-7½"	4	Pc. No. 10		
		Total		F. B. M. = 500		

CONNECTORS

No.	Item	Size
104	TECO Split Rings	4"

HARDWARE

No.	Item	Size
36	Machine Bolts	¾"x 13"
72	Plate Washers	3"x 3"x 3/16"

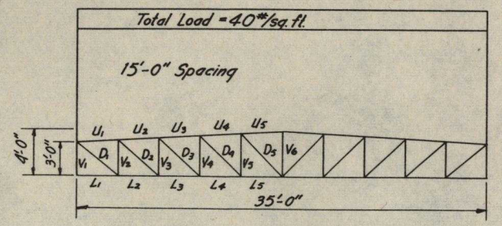


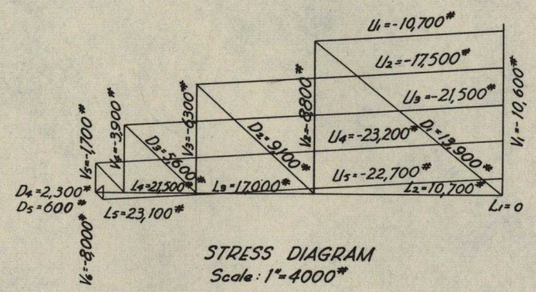
31'-0" FLAT-TOP PRATT TRUSS

Scale: 1" = 1'-0"
0 1 2 3
Scale in feet

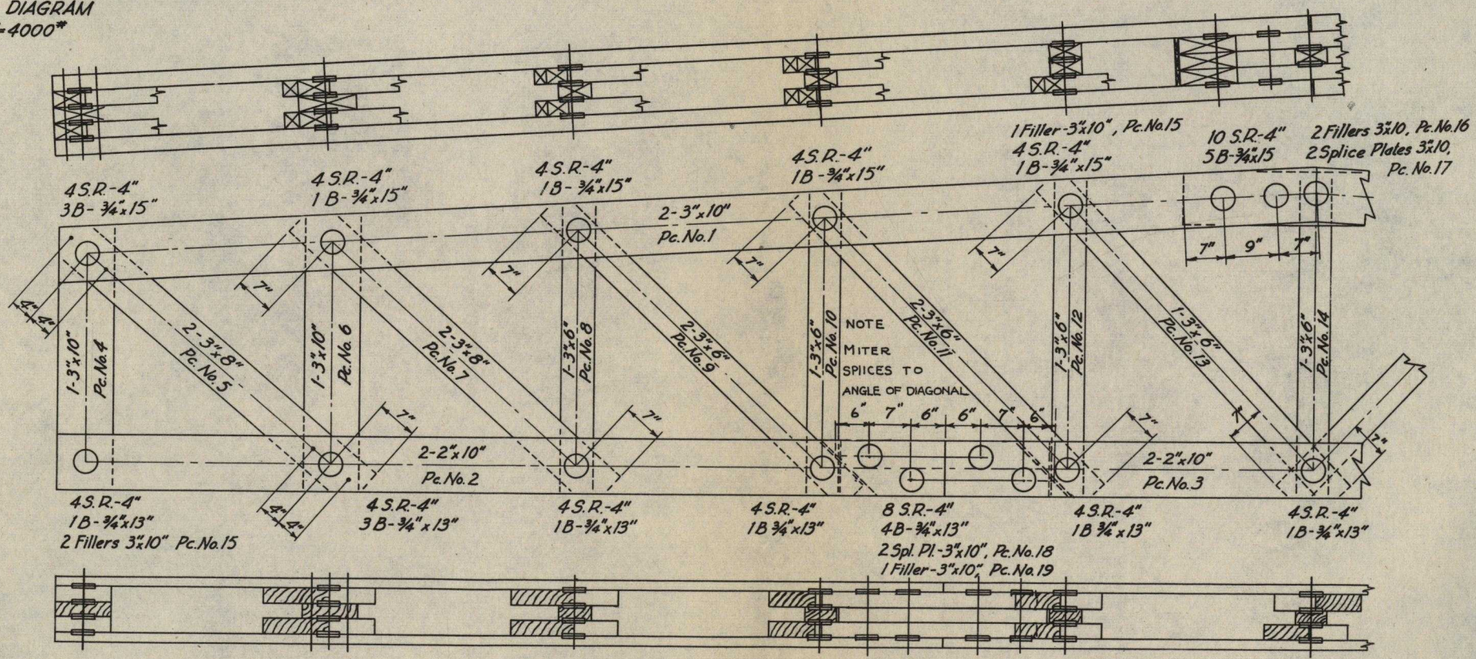
Typical Design for use of Engineers and Architects

TIMBER ENGINEERING COMPANY
WASHINGTON, D. C.
31'-0" FLAT PRATT TRUSS
SPACING 16'-0" RISE 3'-6"
SCALE 1" = 1'-0" SHEET 1 OF 1
DESIGNED BY OSH 9-23-41
CHECKED BY DTR 1-15-42
TRACED BY RWB 3-2-42
DRAWING NO. 374
Rev. E.S.L. 10-26-42





STRESS DIAGRAM
Scale: 1"=4000#



35'-0" FLAT TOP TRUSS

Scale: 1"= 1'-0"

0 1 2 3
Scale in Feet

NOTES:

GENERAL -
This truss has been designed for loads at top chord panel points only. Purlins 6"x12" are satisfactory.

LUMBER -
Lumber shall be of a structural grade with minimum allowable working stresses in lbs. per sq. in. as follows:
880# Compression parallel to grain.
1200# Extreme fiber in bending.
1,600,000# Modulus of Elasticity.
Allowable unit working stresses for commercial grades are given in the leaflet "Working Stresses for Structural Lumber and Timber" or are available from the Regional Lumber Manufacturers Associations

SPLIT RING CONNECTORS
Connectors shall be TECO Split Rings as manufactured by the Timber Engineering Company, Washington, D. C.

MATERIALS LIST PER TRUSS

LUMBER CUTTING BILL

Mk.	Size	Length	Make	Cut From	Order	F.B.M.
1	3"x10"	18'-0"	4	18'-0"	4	180
2	2"x10"	12'-8"	4	14'-0"	4	96
3	2"x10"	10'-6"	2	12'-0"	2	40
4	3"x10"	3'-10"	2	16'-0"	1	40
5	3"x8"	5'-9"	4	12'-0"	2	48
6	3"x10"	4'-0"	2	Pc. No. 4		
7	3"x8"	5'-11"	4	12'-0"	2	48
8	3"x6"	4'-3"	2	20'-0"	2	60
9	3"x6"	6'-0"	4	14'-0"	1	21
10	3"x6"	4'-5"	2	Pc. No. 8		
11	3"x6"	6'-1"	4	26'-0"	1	39
12	3"x6"	4'-7"	2	Pc. No. 8		
13	3"x6"	6'-2"	2	Pc. No. 8		
14	3"x6"	4'-9"	1	6'-0"	1	9
15	3"x10"	0'-9½"	6	16'-0"	1	40
16	3"x10"	1'-8"	2	Pc. No. 15		
17	3"x10"	3'-10"	2	Pc. No. 15		
18	3"x10"	3'-6"	4	20'-0"	1	50
19	3"x10"	3'-0"	2	Pc. No. 18		
Total F.B.M. 671						

CONNECTORS

No.	Item	Size
110	Split Rings	4"

HARDWARE

No.	Item	Size
23	Machine Bolts	¾" x 19"
19	" "	⅝" x 15"
84	Plate Washers	3" x 3" x 3/16"

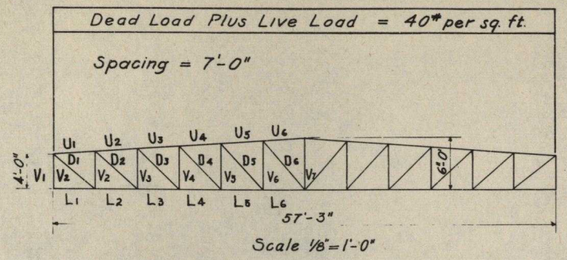
Typical design for use of Engineers and Architects.

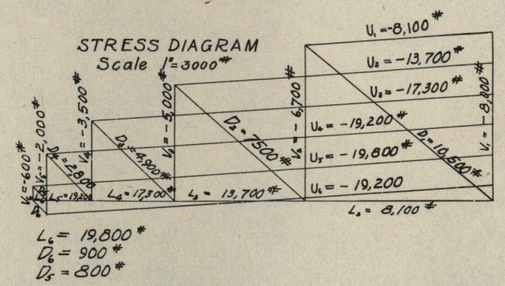
TIMBER ENGINEERING COMPANY
WASHINGTON, D. C.
FLAT TOP TRUSS
SPAN = 35'-0" RISE = 4'-0"

SCALE 1"= 1'-0" SHEET 1 OF 1

DESIGNED BY J.H.C. 1/20/40
CHECKED BY M.M.P. 12/1/41
TRACED BY J.H.-A.B. 12/15/41
DRAWING No. 300

O.K. N.M. J.H.C.
REVISED 11-3-42 D.W.





NOTES

LUMBER SPECIFICATIONS

Lumber shall be of a structural grade with minimum allowable working stresses in pounds per sq. in. as follows:

880# Compression parallel to grain.
1200# Extreme fiber in bending
1,600,000 Modulus of elasticity.

Allowable unit working stresses for commercial grades are given in the leaflet "Working Stresses for Structural Lumber and Timber" or are available from the Regional Lumber Manufacturers Associations

SPLIT RING CONNECTIONS

Connectors shall be TECO split rings as manufactured by the Timber Engineering Company, Washington, D.C.

CAMBER

The proper camber may be introduced into this truss by raising the lower chord 1½" at the center during fabrication.

MATERIALS LIST PER TRUSS

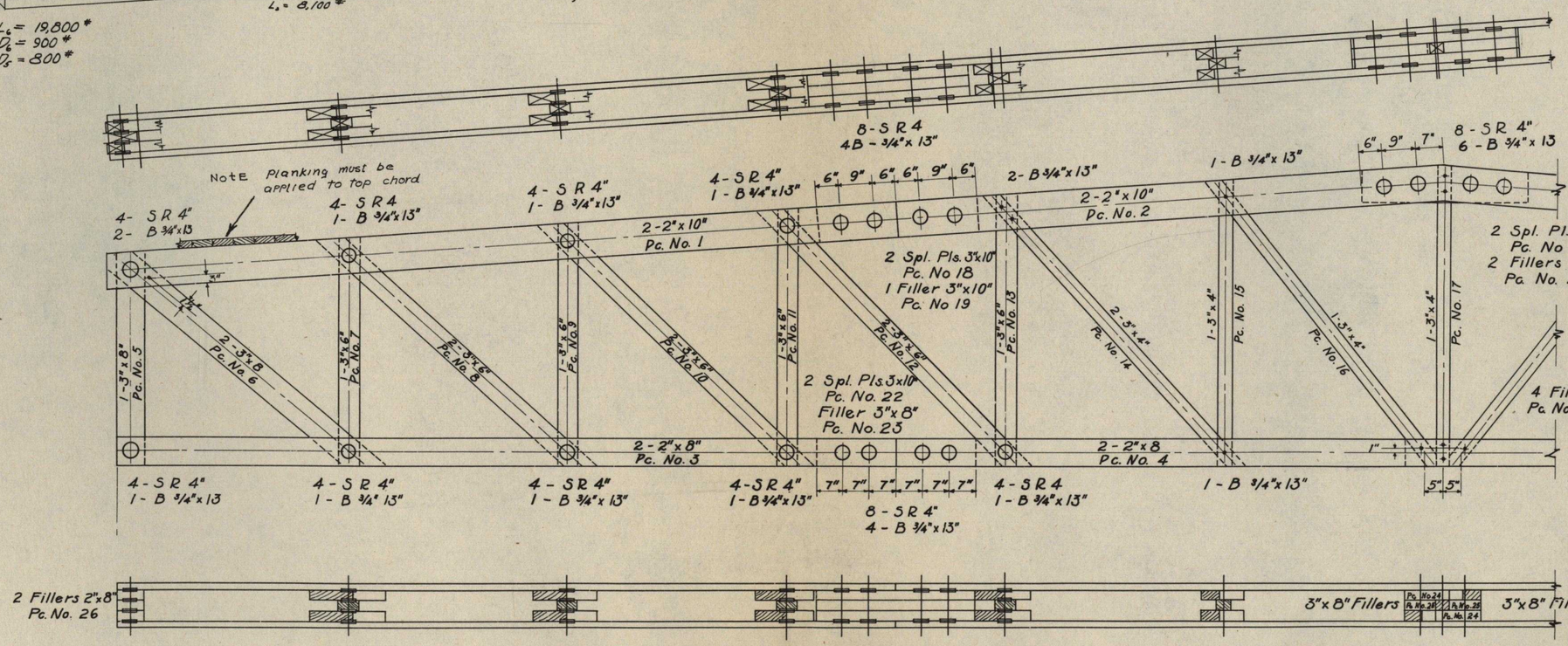
LUMBER CUTTING BILL

Mk.	Size	Length	Make	Cut From	Order	F. B. M.
1	2"x10"	17'-3"	4	18'-0"	4	120
2	2"x10"	12'-0"	4	12'-0"	4	80
3	2"x8"	17'-1½"	4	18'-0"	4	96
4	2"x8"	24'-0"	2	24'-0"	2	64
5	3"x8"	4'-9"	2	14'-0"	1	28
6	3"x8"	7'-6"	4	16'-0"	2	64
7	3"x6"	5'-0"	2	22'-0"	1	33
8	3"x6"	7'-11"	4	16'-0"	2	48
9	3"x6"	5'-4"	2	22'-0"	1	33
10	3"x6"	8'-0"	4	16'-0"	2	48
11	3"x6"	5'-8"	2	Pc. No. 9	–	–
12	3"x 6"	8'-3"	4	18'-0"	2	54
13	3"x6"	6'-0"	2	Pc. No. 7	–	–

Mk.	Size	Length	Make	Cut From	Order	F. B. M.
14	3"x 4"	8'-3"	4	18'-0"	2	36
15	3"x 4"	6'-4"	2	14'-0"	1	14
16	3"x4"	8'-0"	4	16'-0"	2	32
17	3"x4"	6'-7½"	1	8'-0"	1	8
18	3"x10"	3'-6"	4	14'-0"	1	35
19	3"x10"	3'-6"	2	18'-0"	1	45
20	3"x10"	3'-7½"	2	Pc. No. 19	–	–
21	3"x10"	1'-8"	2	Pc. No. 19	–	–
22	3"x8"	3'-6"	4	22'-0"	1	44
23	3"x8"	3'-6"	2	Pc. No. 22	–	–
24	3"x8"	0'-11½"	2	Pc. No. 5	–	–
25	3"x8"	0'-8"	2	Pc. No. 5	–	–
26	2"x8"	0'-7"	4	Pc. No. 3	–	–
				TOTAL		882

CONNECTORS		
No.	Item	Size
112	Teco Split Rings	4"

HARDWARE		
No.	Item	Size
54	Machine Bolts	¾"x 13"
108	Plate Washers	3"x 3"x 7/16"



57'-3" FLAT PRATT TRUSS

Scale: ¾"=1'-0"

0 1 2 3

Scale in feet

Typical Design for use of Architects & Engineers

TIMBER ENGINEERING COMPANY
WASHINGTON, D. C.

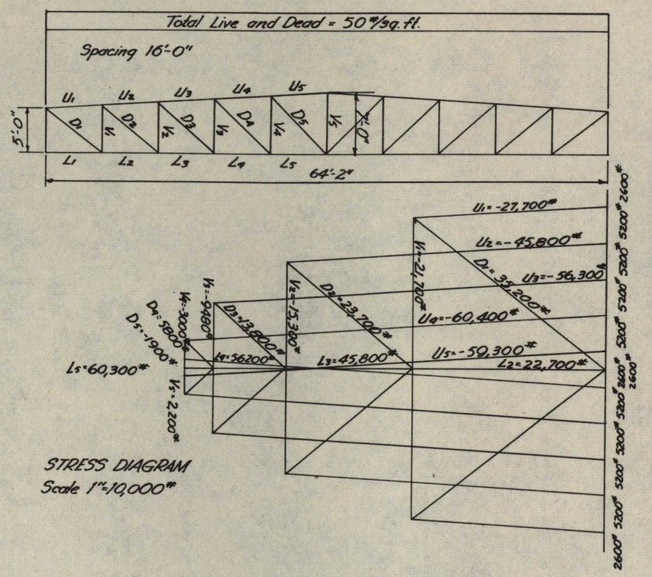
FLAT PRATT TRUSS
SPAN 57'-3" RISE 6'-0"

SCALE ¾"=1'-0" SHEET 1 OF 1

DESIGNED BY D.S.H. DATE 9/5/41
CHECKED BY W.B.M. 2/2/42
TRACED BY R.A.I. 2/4/42

DRAWING NO. 376

O.K. – N.M.



STRESS DIAGRAM
Scale 1"=10,000#

NOTES:

GENERAL-

This truss has been designed for loads at panel points only.

The proper camber may be introduced into the truss by raising the lower chord 1 3/4" at the center during fabrication.

LUMBER-

Lumber shall be of a structural grade with minimum allowable working stresses in lbs. per sq. in as follows:

1000# Compression parallel to grain.
1200# Extreme fiber in bending.
1,600,000 Modulus of Elasticity

Allowable stresses for commercial grades are given in the leaflet, "Working Stresses for Structural Lumber and Timber," or are available from the Regional Lumber Manufacturers Associations.

CONNECTORS-

Connectors shall be TECO Split Rings as manufactured by the Timber Engineering Company, Washington, D.C.

MATERIALS LIST PER TRUSS

LUMBER CUTTING BILL

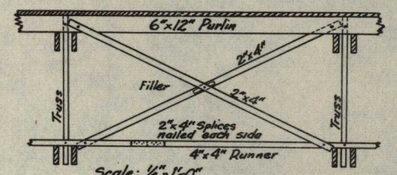
Mk.	Size	Length	Make	Cut From	Order	F.B.M.
1	3"x12"	16'-9"	4	18'-0"	4	216
2	3"x12"	15'-11½"	4	16'-0"	4	192
3	3"x12"	16'-6"	4	18'-0"	4	216
4	3"x12"	15'-11"	4	16'-0"	4	192
5	3"x12"	6'-11"	2	14'-0"	1	42
6	3"x12"	5'-0"	4	20'-0"	1	60
7	3"x12"	9'-7½"	4	20'-0"	2	120
8	3"x12"	7'-6"	2	16'-0"	1	48
9	3"x12"	9'-10"	4	20'-0"	2	120
10	3"x10"	7'-10½"	2	16'-0"	1	40
11	3"x8"	9'-11"	4	20'-0"	2	80
12	3"x8"	8'-1½"	2	18'-0"	1	36
13	3"x6"	9'-11"	4	20'-0"	2	60
14	3"x6"	8'-6"	2	18'-0"	1	27
15	3"x6"	9'-9"	2	20'-0"	1	30
16	3"x6"	7'-11½"	1	10'-0"	1	15
17	3"x12"	5'-0"	4	20'-0"	1	60
18	3"x12"	5'-0"	2	10'-0"	1	30
19	3"x12"	5'-7"	2	20'-0"	1	60
20	3"x12"	2'-6½"	2	10'-0"	1	30
21	3"x12"	3'-10"	4	16'-0"	1	48
22	3"x12"	3'-10"	2	Pc. No. 19		
23	3"x12"	5'-0"	2	10'-0"	1	30
24	3"x12"	2'-3"	2	Pc. No. 20		
25	3"x12"	1'-0"	18	10'-0"	1	54
26	3"x6"	0'-11½"	2	Pc. No. 16		
				Total F.B.M.		1806

CONNECTORS

No.	Item	Size
278	Split Rings	4"

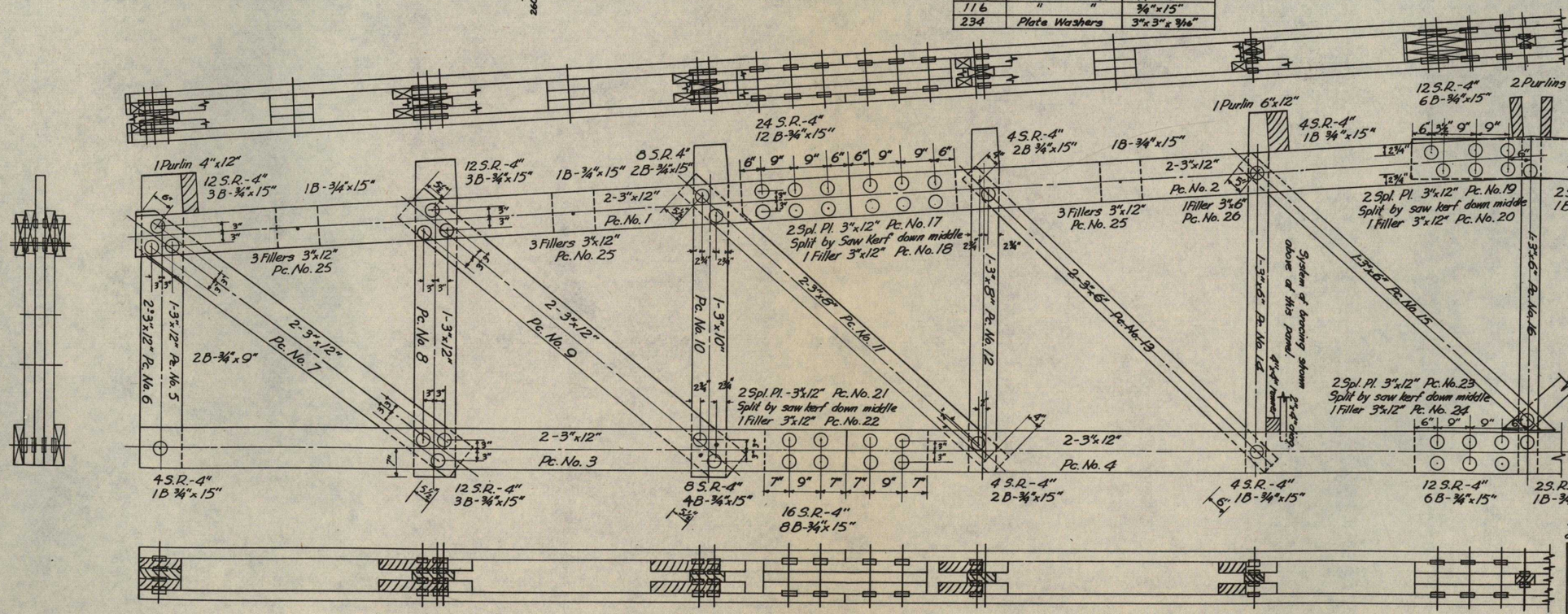
HARDWARE

No.	Item.	Size
5	Machine Bolts	¾" x 9"
116	" "	¾" x 15"
234	Plate Washers	3" x 3" x 5/16"



Scale: ¼"=1'-0"

This bracing system to be placed at panel points at each side of center of truss, continuous through length of building.
½" bolts for connections.



These ridge purlins are to be bolted at center of span with filler.

64'-2" PRATT ROOF TRUSS

Scale: ¾"=1'-0"

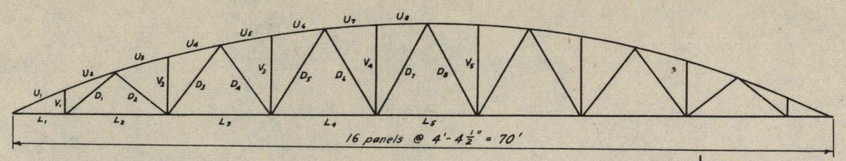
Typical design for use of Engineers and Architects.

TIMBER ENGINEERING COMPANY
WASHINGTON, D. C.
PRATT ROOF TRUSS
SPAN 64'-2" RISE 7'-0"

SCALE ¾"=1'-0" SHEET 1 OF 1

	DATE	DRAWING NO.
DESIGNED BY E.S.L.	10/6/41	384
CHECKED BY W.B.M.	1/8/42	
TRACED BY M.L.-M.G.	1/23/42	

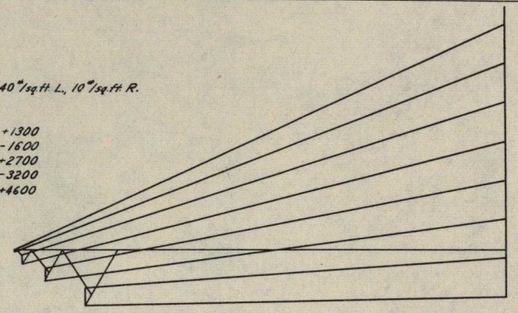
O.K. N.M.-W.B.M. 1/8/42



Spacing 16'-0"

Web Members Designed for 40#/sq.ft. L., 10#/sq.ft R.

V_1 -700	D_1 -
V_2 -600	D_2
V_3 -900	D_3 +1300
V_4 -1300	D_4 -1600
	D_5 +2700
	D_6 -3200
	D_7 +4600



Scale: 1" = 5000"

40#/sq.ft. on left half, 10#/sq.ft. on right half.

Chords designed for 40#/sq.ft. overall

U_1 - 50,000	L_1 - 45,500
U_2 - 48,200	L_2 46,200
U_3 - 49,000	L_3 47,300
U_4 - 48,200	L_4 48,200
U_5 - 48,700	L_5 49,200
U_6 - 48,400	V_1 700
U_7 - 48,800	D_1 -1000
U_8 - 48,600	D_2 800

NOTES

Top chord members are built up to the desired curvature with 2"x 4" lumber, glued together with casein glue, and nailed with 20d nails, spaced 12"c.c, and in a staggered position, about 1" from each edge. This nailing will assist in holding members in position while glue is setting up. Laminations are further reinforced at panel points by a through bolt ½" in diameter.

CAMBER

Camber of 4" in bottom chord should be provided for when fabricating truss.

LUMBER SPECIFICATIONS

Lumber shall be of a structural grade with minimum allowable working stresses in pounds per sq. in. as follows:

880# Compression parallel to grain
1200# Extreme fiber in bending
1,600,000# Modulus of Elasticity

Allowable unit working stresses for commercial grades are given in the leaflet "Working Stresses for Structural Lumber and Timber" or are available from the Regional Lumber Manufacturer's Associations.

CONNECTORS

Connectors shall be TECO split rings and shear plates as manufactured by the Timber Engineering Company, Washington, D. C.

MATERIALS LIST PER TRUSS

LUMBER CUTTING BILL S43

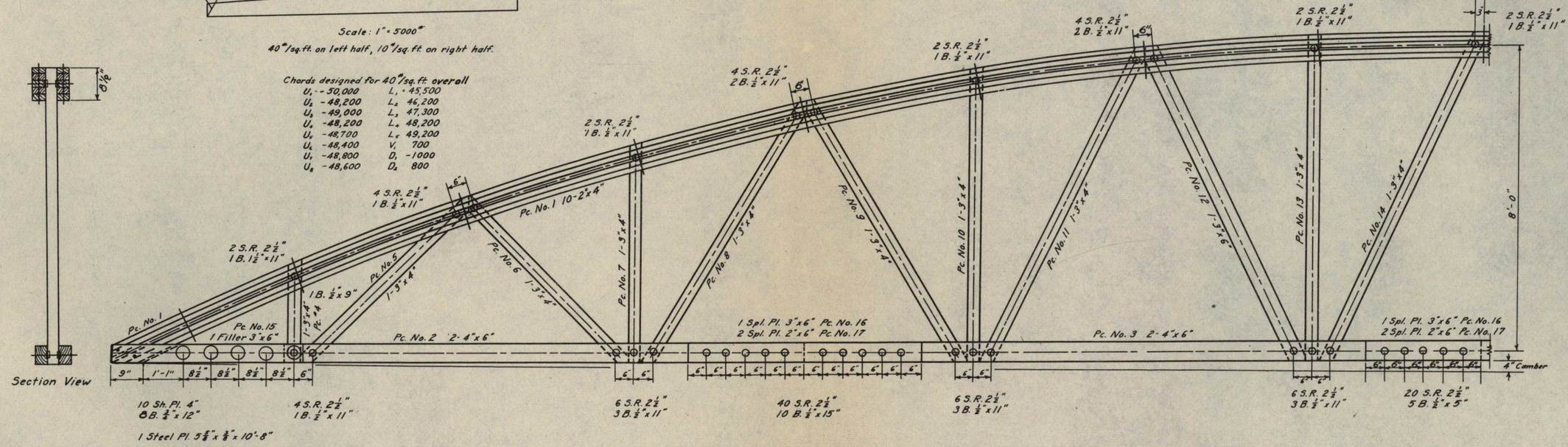
Mk.	Size	Length	Make	Cut From	Order	F.B.M.	Mk.	Size	Length	Make	Cut From	Order	F.B.M.
1	2"x4"	73'-6"	10	16'-0" 20'-0"	40 5	440 70	10	3"x4"	7'-8½"	2	18'-0"	2	36
2	4"x6"	17'-0"	4	18'-0"	4	144	11	3"x4"	9'-3"	2	10'-0"	2	36
3	4"x6"	17'-5½"	4	18'-0"	4	144	12	3"x6"	9'-2"	2	20'-0"	1	30
4	3"x4"	2'-9"	2	6'-0"	1	6	13	3"x4"	8'-6"	2	Pc.#11		
5	3"x4"	6'-0"	2	12'-0"	1	12	14	3"x4"	9'-7½"	2	Pc.#10		
6	3"x4"	6'-0"	2	12'-0"	1	12	15	3"x6"	4'-6"	2	16'-0"	1	24
7	3"x4"	5'-9½"	2	12'-0"	1	12	16	3"x6"	6'-0"	3	20'-0" 12'-0"	1	18
8	3"x4"	8'-0"	2	16'-0"	1	16	17	2"x6"	6'-0"	6	12'-0"	3	36
9	3"x4"	8'-0"	2	16'-0"	1	16					Total F.B.M.		1052

CONNECTORS

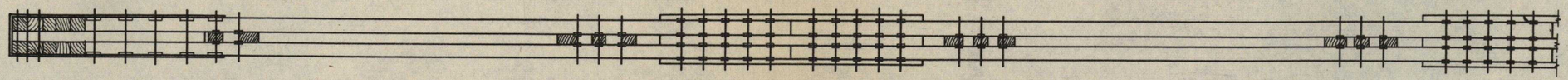
No.	Item	Size	No.	Item	Size
20	Shear Plates	4"-¢	208	Split Rings	2½"-¢

HARDWARE

No.	Item	Size	No.	Item	Size
16	Machine Bolts	¾"x 12"	30	Machine Bolts	½"x 15"
34	" "	½"x 9"	2	Steel Plates	5⅝"x⅜"x 10'-8"
42	" "	½"x 11"	178	Plate Washers	2"x2"x ⅛"



Section View



Typical design for use of Engineers and Architects

70'-0" BOWSTRING TRUSS

Scale ⅜"=1'-0"

0 1 2 3

Scale in feet

TIMBER ENGINEERING COMPANY
WASHINGTON, D. C.

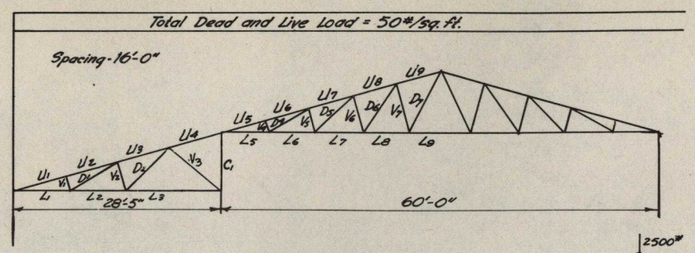
BOWSTRING TRUSS
SPAN 70'-0" RISE 9'-0"

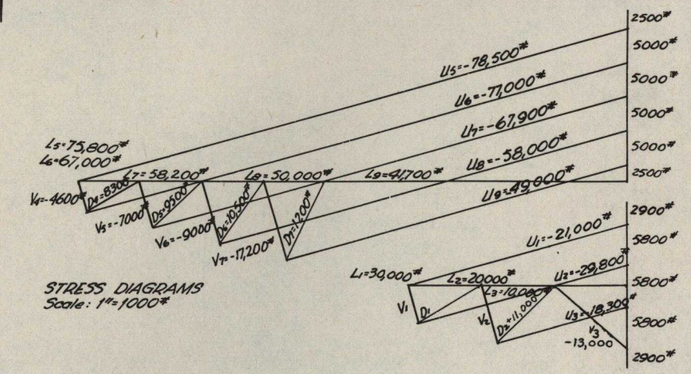
SCALE ⅜"=1'-0" SHEET 1 OF 1

DESIGNED BY J.H.C. DATE 6/30/31
CHECKED BY
TRACED BY W.W.W. 12/21/41

DRAWING NO. 254-A

Rev. H.M. R.A.B. 12/10/41





STRESS DIAGRAMS
Scale: 1"=1000#

MATERIAL LIST PER TRUSS

LUMBER CUTTING BILL

Mk.	Size	Length	Make	Cut from	Order	F.B.M.	Mk.	Size	Length	Make	Cut from	Order	F.B.M.
1	3"x12"	25'-10"	4	26'-0"	4	312	18	3"x12"	9'-0"	2	18'-0"	1	54
2	4"x12"	20'-0"	4	20'-0"	4	320	19	2"x12"	10'-8"	4	22'-0"	2	88
3	4"x12"	16'-0"	4	16'-0"	4	256	20	2"x8"	5'-0"	4	20'-0"	1	27
4	3"x8"	26'-0"	4	26'-0"	4	208	21	3"x8"	5'-0"	2	10'-0"	1	20
5	4"x8"	20'-8"	4	22'-0"	4	235	22	4"x8"	2'-3"	4	10'-0"	1	27
6	4"x8"	14'-8"	2	16-0"	2	86	23	2"x8"	7'-4"	4	18'-0"	2	48
7	3"x6"	3'-10"	2	10'-0"	2	30	24	3"x8"	7'-4"	2	16'-0"	2	64
8	2"x6"	17'-10"	4	18'-0"	4	72	25	2"x8"	5'-0"	4	20'-0"	1	27
9	3"x6"	6'-0"	2	Pc. No. 7			26	3"x8"	5'-0"	2	10'-0"	1	20
10	2"x6"	9'-11"	4	20'-0"	2	40	27	3"x12"	3'-6"	2	18'-0"	1	54
11	4"x12"	9'-1"	2	20'-0"	1	80	28	2"x12"	3'-6"	4	14'-0"	1	28
12	3"x6"	3'-8"	2	22'-0"	1	33	29	3"x12"	3'-6"	2	Pc. No. 27		
13	2"x6"	15'-9"	4	16'-0"	4	64	30	3"x12"	2'-11	1	Pc. No. 27		
14	3"x6"	5'-5"	2	12'-0"	1	18	31	3"x8"	0'-11½"	14	14'-0"	1	28
15	2"x6"	8'-5"	4	18'-0"	4	72	32	2"x8"	1'-0"	4	Pc. No. 23		
16	3"x6"	7'-1"	2	Pc. No. 12			33	3"x10"	1'-0"	4	4'-0"	1	10
17	2"x6"	9'-7"	4	Pc. No. 15									

Total F.B.M. = 2321

CONNECTORS

No.	Item	Size
392	Split Rings	4"

HARDWARE

No.	Item	Size	No.	Item	Size
12	Machine Bolts	¾"x 9"	4	Machine Bolts	¾"x 19"
14	" "	¾"x 11"	2	" "	1"x 13"
24	" "	¾"x 13"	2	" "	1"x 15"
70	" "	¾"x 15"	248	Plate Washers *	3"x 3"x ⅜"
6	" "	¾"x 17"	8	Steel Straps	3"x ⅛"x 1'-6½"
7	" "	¾"x 14"	*	Punch 8 for 1" Bolt	

NOTES:

GENERAL-
This truss has been designed to carry loads at top chord panel points only. Purlins 8"x10" are satisfactory.
The proper camber may be introduced into this truss by raising the lower chord 1½" at the center during fabrication.

LUMBER-
Lumber shall be of a structural grade with minimum allowable working stresses in lbs. per sq. in. as follows:
880# Compression parallel to grain.
1200# Extreme fiber in bending.
1,600,000# Modulus of Elasticity.
except top chords which are to have the following:
1200# Compression parallel to grain.
1600# Extreme fiber in bending.
Allowable unit working stresses are given in the leaflet "Working Stresses for Structural Lumber and Timber" or are available from the Regional Lumber Manufacturers Associations.

CONNECTORS-
Connectors shall be TECO Split Rings as manufactured by the Timber Engineering Co., Washington, D.C.

Note: For ease in erection this splice may be redesigned with bolts.

Typical design for use of Engineers and Architects.

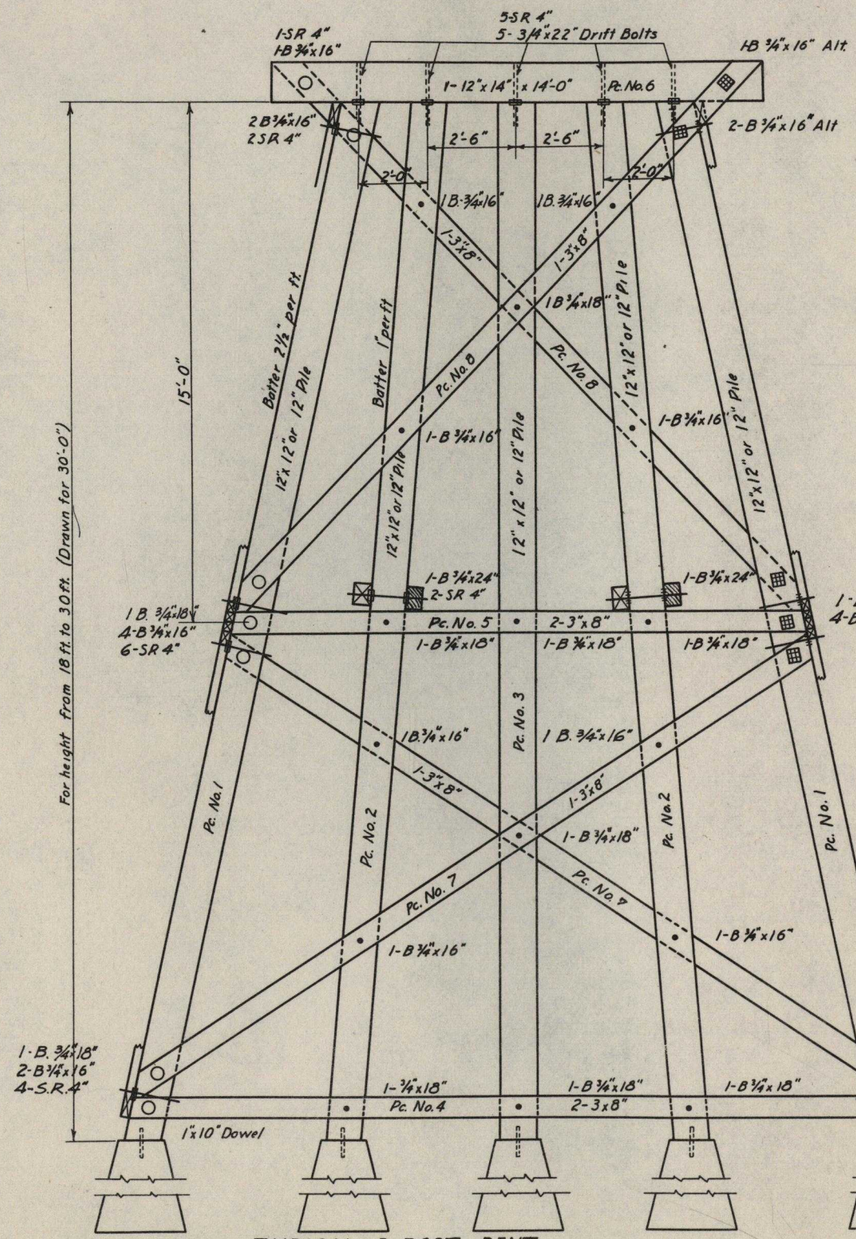
THREE-SPAN FACTORY TRUSS

Scale ½"=1'-0"
Scale in Feet

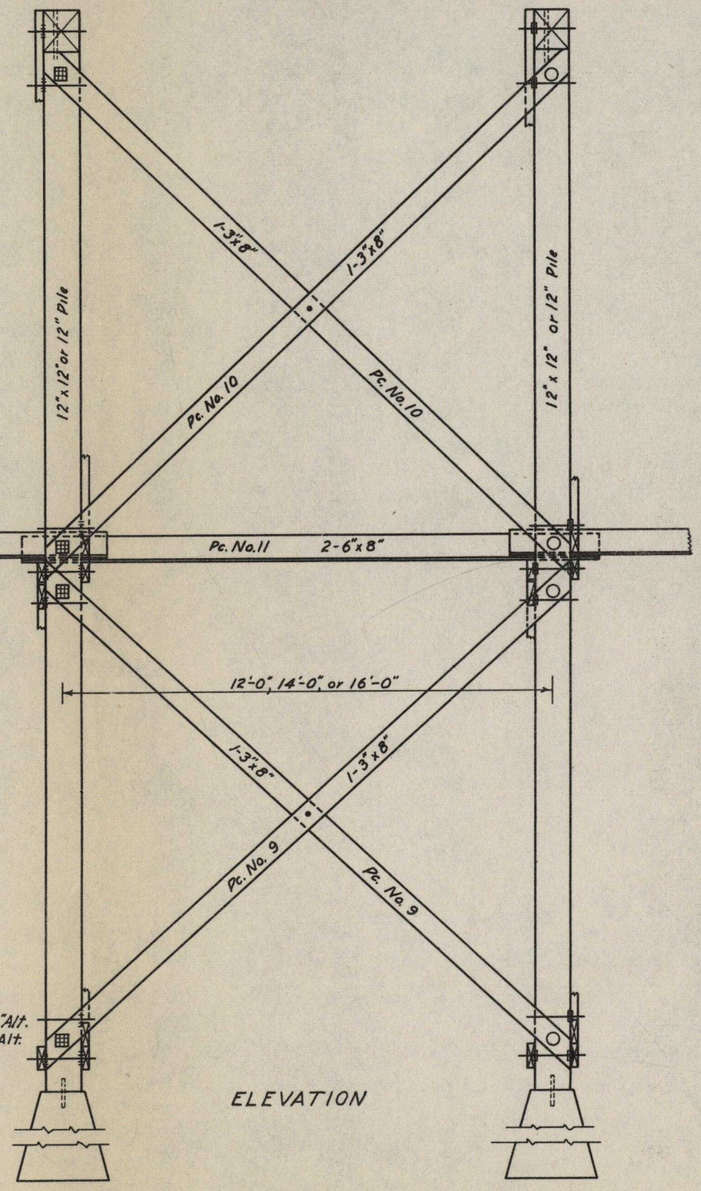
TIMBER ENGINEERING COMPANY
WASHINGTON, D. C.
FACTORY TRUSS
SPANS - 28'-5", 60'-0", 28'-5"

SCALE ½"=1'-0" SHEET 1 OF 1
DESIGNED BY J.C. 3/4/40
CHECKED BY R.A.D. 1/3/42
TRACED BY B.K.-A.I.G. 1/31/42
DATE
DRAWING NO. 304

O.K.-N.M - 3/4/40 J.H.C.
REVISED 11-3-42 D.W.



TYPICAL 5 POST BENT



ELEVATION

NOTES

GENERAL

3/4" Bolts are to be used for all connections unless otherwise stated. When square posts are used, either a 4 1/8" x 4 1/8" flat grid or a 4" split ring connector shall be used at the points shown on the drawing. When piles are used curved spiked grid connectors shall be used at the points shown on the drawing.

No provision need be made for impact on this structure.

This structure will carry an E-45 loading when the bents are spaced 16 ft. on centers and an E-60 loading with a 12 ft or 14 ft. spacing.

Longitudinal bracing shall consist of horizontal bracing throughout its length and diagonal bracing in every other panel.

This design was prepared using the A.R.E.A. standard practice as a guide.

LUMBER

Lumber shall be of a structural grade with minimum allowable working stresses in lbs. per sq. in. as follows:

1000# Compression parallel to grain.
1400# Extreme fiber in bending.
1,600,000 Modulus of Elasticity.

Allowable working stresses for commercial grades of lumber are given in the leaflet "Working Stresses for Structural Lumber and Timber" or are available from the Regional Lumber Manufacturers Associations. Allowable stresses are also available from the A.R.E.A.

TIMBER CONNECTORS

Connectors shall be TECO Connectors as manufactured by the Timber Engineering Co. Washington, D.C.

MATERIALS LIST PER TRESTLE

LUMBER CUTTING BILL

Mk.	Size	Length	Make	Cut From	Order	F.B.M.
1	12x12	30'-10½"	4	32'-0"	4	1536
2	12x12	30'-1"	4	32'-0"	4	1536
3	12x12	30'-0"	2	30'-0"	2	720
4	3x8	22'-3"	4	24'-0"	4	192
5	3x8	16'-4½"	4	18'-0"	4	144
6	12x12	14'-0"	2	14'-0"	2	392
7	3x8	23'-5"	4	24'-0"	4	192
8	3x8	22'-0"	4	22'-0"	4	176
9	3x8	21'-0"	4	22'-0"	4	176
10	3x8	21'-0"	4	22'-0"	4	176
11	6x8	16'-6"	4	18'-0"	4	288
Alternative List				Total		5528
1a	12" Pile	32'			4	
2a	12" Pile	32'			4	
3a	12" Pile	32'			2	

CONNECTORS

No.	Item	Size
70	Split Rings	4"
or 56	Spiked Grids curved	4 1/8" x 4 1/8"
14	Spiked Grids flat	4 1/8" x 4 1/8"

HARDWARE

4	Machine Bolts	3/4" x 24"
24	Machine Bolts	3/4" x 18"
52	Machine Bolts	3/4" x 16"
160	Plate Washers	3" x 3" x 3/16"
10	Drift Pins	5/8" x 22"
10	Dowels	1" x 10"

Typical plan for use of architects and engineers.

TIMBER ENGINEERING COMPANY
WASHINGTON, D. C.

TYPICAL TRESTLE
LOADING E45-E60. HEIGHT 18'-30'

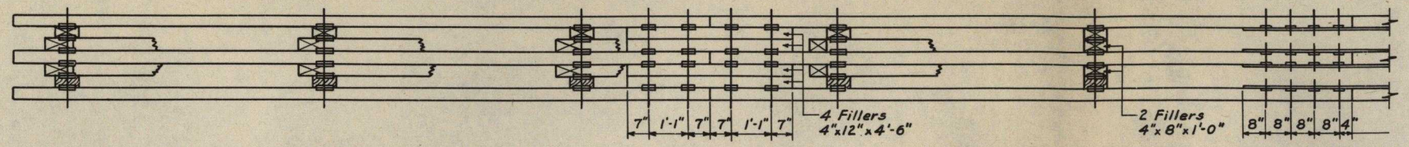
SCALE 1/2"=1'-0" SHEET 1 OF 1

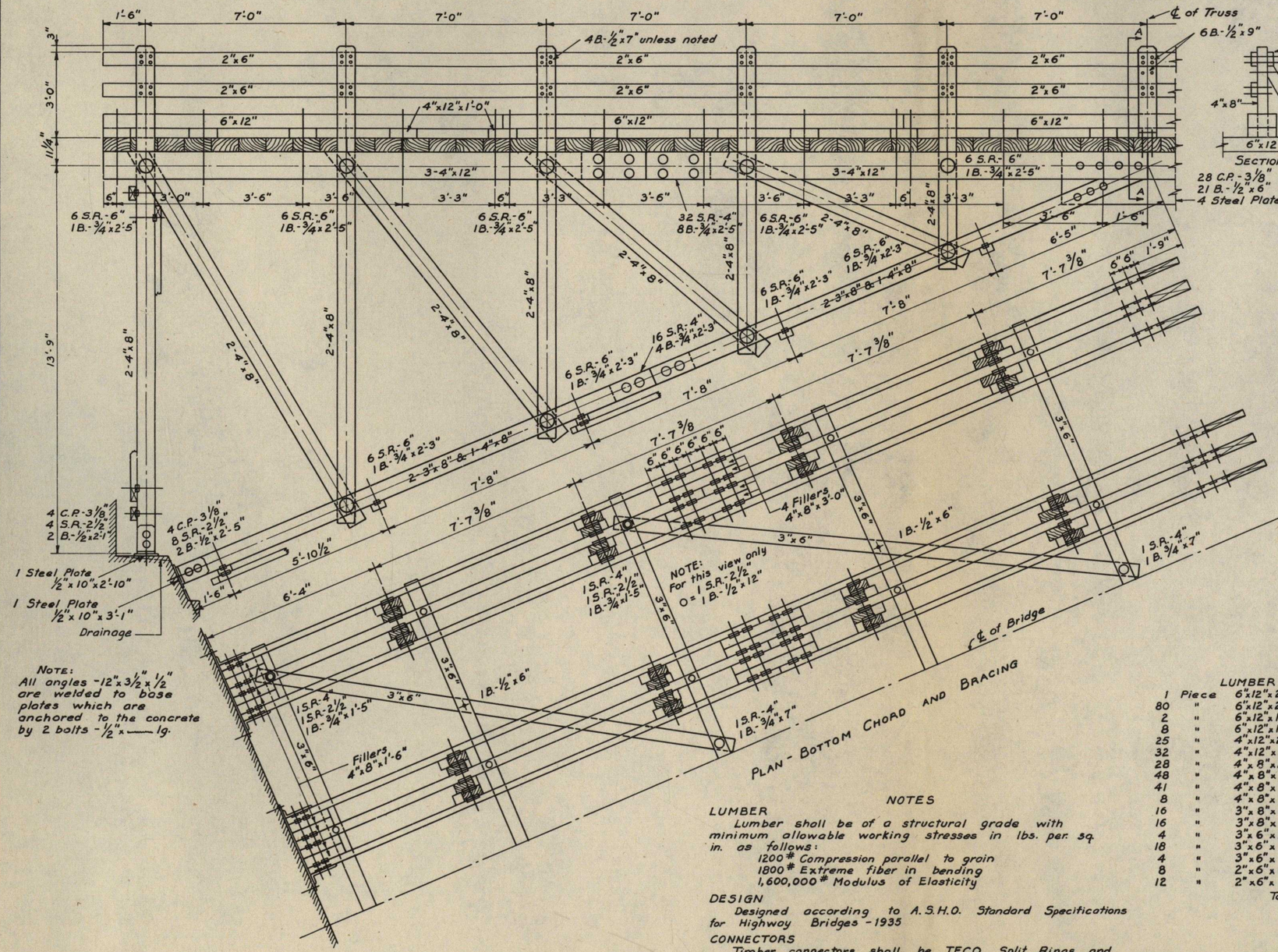
DESIGNED BY J.Carr 9/20/37
CHECKED BY R.B. 11/20/41
TRACED BY G.M.K. 11/23/41

DRAWING NO. 246

O.K. N.M.

PLAN - TOP CHORD

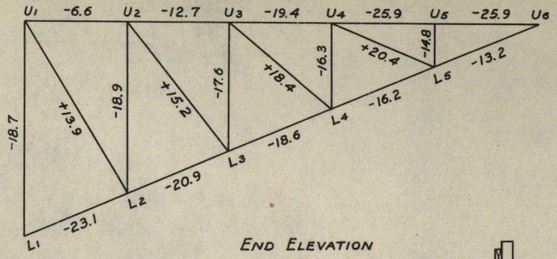


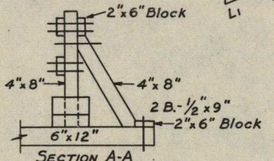


PLAN - BOTTOM CHORD AND BRACING

NOTE:
All angles - 12"x3½"x½" are welded to base plates which are anchored to the concrete by 2 bolts - ½"x ___ lg.

Loads in Kips

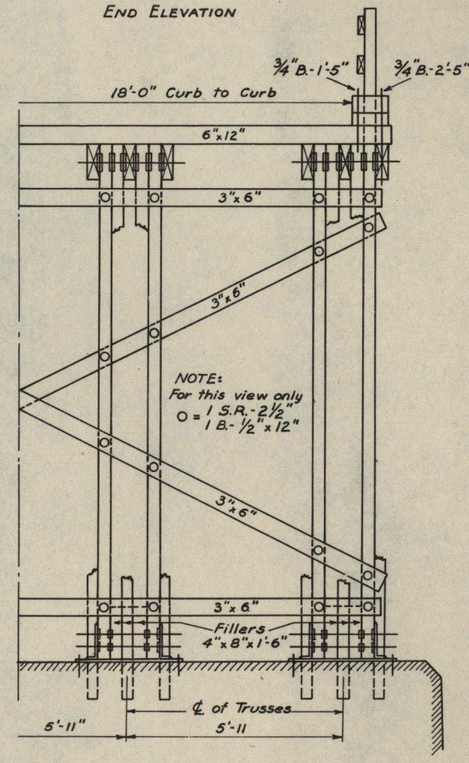




SECTION A-A

28 C.P.-3⅛"
21 B.-½"x6"
4 Steel Plates - ⅜"x22"x6'-0"

END ELEVATION



NOTES

LUMBER

Lumber shall be of a structural grade with minimum allowable working stresses in lbs. per sq. in. as follows:

1200 # Compression parallel to grain
1800 # Extreme fiber in bending
1,600,000 # Modulus of Elasticity

DESIGN

Designed according to A.S.H.O. Standard Specifications for Highway Bridges - 1935

CONNECTORS

Timber connectors shall be TECO Split Rings and Claw Plates as manufactured by the Timber Engineering Company, Wash., D.C.

MATERIALS LIST

LUMBER (S4S)

1	Piece	6"x12"x24'-0"	144	F.B.M.
80	"	6"x12"x20'-0"	9600	"
2	"	6"x12"x18'-0"	216	"
8	"	6"x12"x14'-0"	672	"
25	"	4"x12"x20'-0"	2000	"
32	"	4"x12"x18'-0"	2304	"
28	"	4"x8"x20'-0"	1494	"
48	"	4"x8"x18'-0"	2304	"
41	"	4"x8"x16'-0"	1750	"
8	"	4"x8"x14'-0"	299	"
16	"	3"x8"x20'-0"	640	"
16	"	3"x8"x18'-0"	576	"
4	"	3"x6"x22'-0"	132	"
18	"	3"x6"x20'-0"	540	"
4	"	3"x6"x18'-0"	108	"
8	"	2"x6"x16'-0"	128	"
12	"	2"x6"x14'-0"	168	"
		Total	23,075	F.B.M.

HARDWARE

432	Split Rings	6" ϕ
400	" "	4" ϕ
200	" "	2½" ϕ
288	Claw Plates	3⅛" ϕ
176	Machine Bolts	½"x6"
168	" "	½"x7"
16	" "	½"x9"
96	" "	½"x12"
16	" "	½"x2'-1"
16	" "	½"x2'-5"
8	" "	¾"x7"
60	" "	¾"x1'-5"
64	" "	¾"x2'-3"
156	" "	¾"x2'-5"
32	Angles welded to	12"x3½"x½"
8	Steel Plates and	½"x10"x3'-1"
8	" "	½"x10"x2'-10"
16	" "	⅜"x22"x6'-0"
590	Washers	2"x2"x⅛"
432	"	3"x3"x3/16"
144	"	3"x3"x¼"
32	Anchor Bolts	½"x ___ lg.
198	Cut washers	2" ϕ

TIMBER ENGINEERING COMPANY
WASHINGTON, D. C.

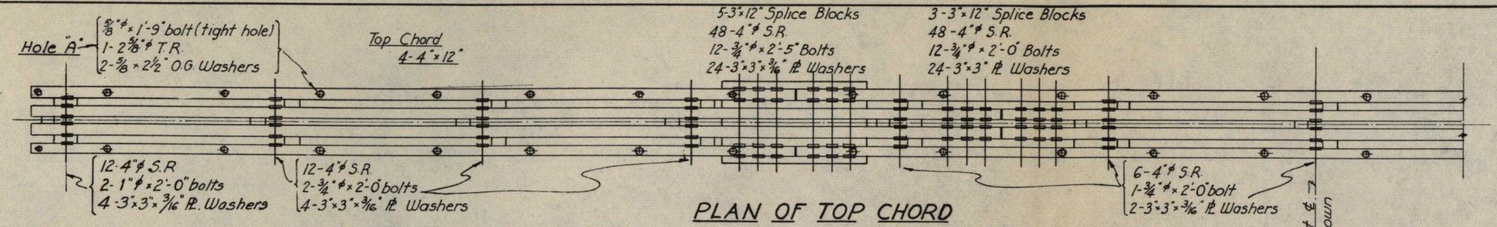
70'-0" ARCH

H-15 LOADING 18'-0" ROADWAY

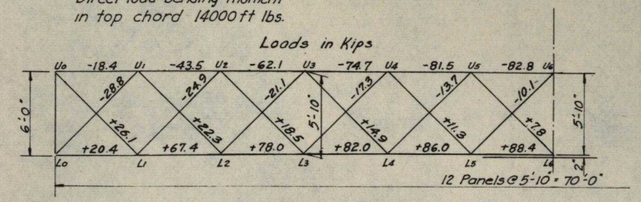
SCALE ½"=1'-0" SHEET 1 OF 1

	DATE	DRAWING NO.
DESIGNED BY D.Burnett	8/39	B-2
CHECKED BY J.H.C. & D.S.H.	10/39	
TRACED BY D.S.H.	8/39	

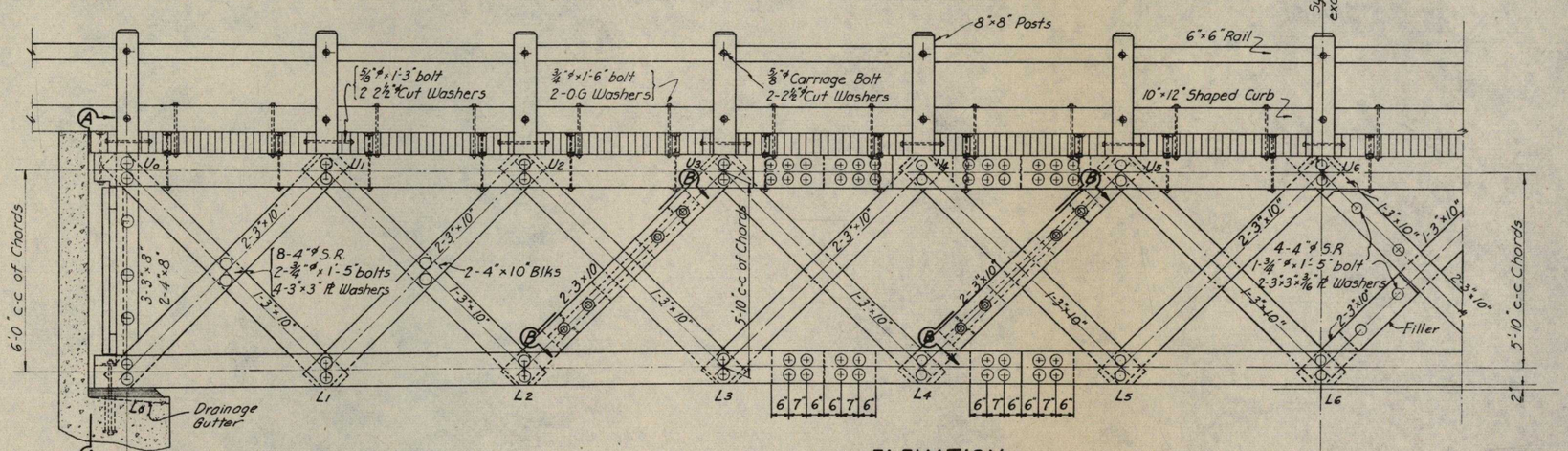
Revised N.M. 1/5/40 J.H.C.



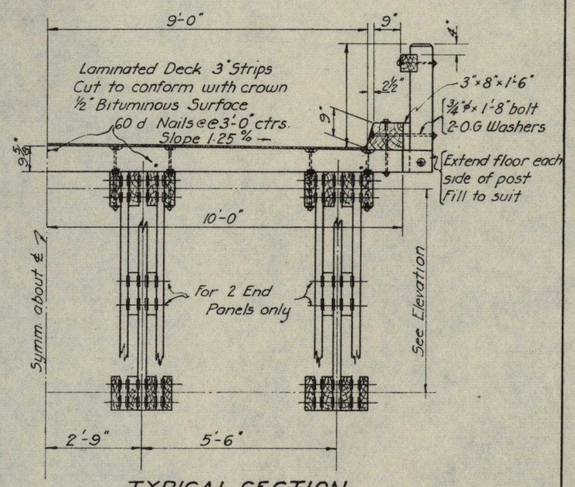
PLAN OF TOP CHORD



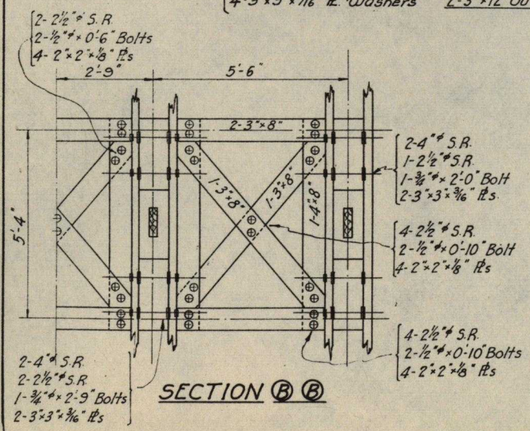
LINE DIAGRAM



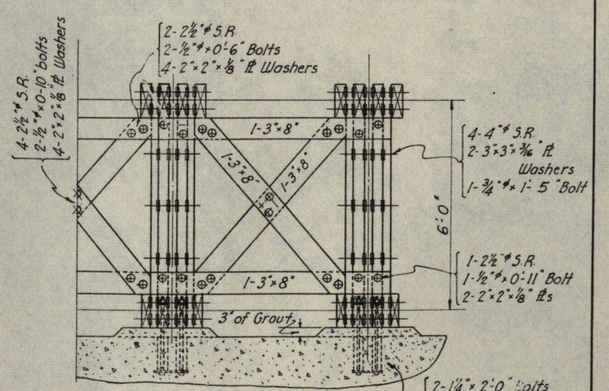
ELEVATION



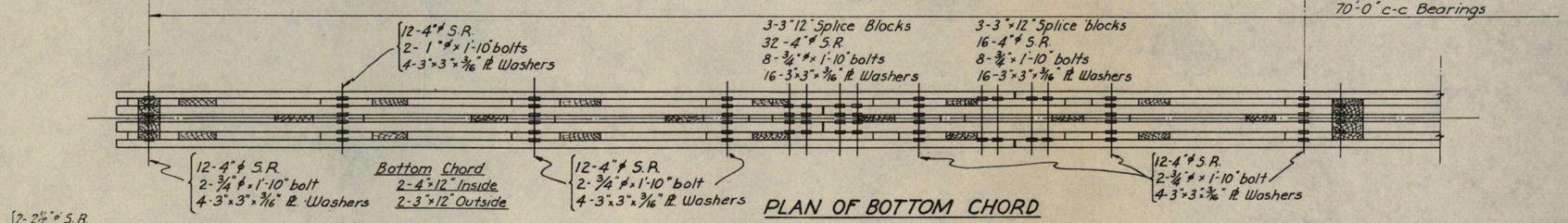
TYPICAL SECTION



SECTION Ⓑ Ⓑ



SECTION Ⓐ Ⓐ



PLAN OF BOTTOM CHORD

LIST OF MATERIALS

Lumber				Bolts with Sq. Heads		Miscellaneous	
32	Pieces	4"×12"×	22'	26 –	¾"ϕ × 1'-8"	2816 –	4" Split Rings
16	"	" "	28'	216	" × 2'-0"	536	2½" " "
8	"	" "	18'	216	" × 1'-10"	208	2⅝" Toothed Rings
16	"	" "	30'	96	" × 2'-5"	104	⅞" × 2½" Cut Washers
16	"	3"×12"×	28'	72	" × 1'-5"	416	⅞" × 2½" O.G. Washers
8	"	" "	18'	32	" × 2'-9"	148	¾" × 3" " "
17	"	" "	24'	208	⅝"ϕ × 1'-9"	1328	3"×3"×3/16" ℄ "
76	"	3"×10"×	20'	26	" × 1'-3"	616	2"×2"×⅛" " "
22	"	3"×8"×	20'	48	¾"ϕ × 1'-6"	16	3"×3"×⅜" " "
2	"	" "	18'	32	½"ϕ × 0'-11"	8	5"×11"×½" " "
6	"	" "	14'	144	" × 0'-6"	16	4"ϕ × 1'-0" Std. Pipe
14	"	" "	26'	16	1"ϕ × 1'-10"	4 tons bituminous Surfacing	
324	"	3"×10"×	20'	132	" × 0'-10"	500 lbs – 60d nails	
6	"	10"×12"×	24'	16	1¼"ϕ × 2'-0"		
8	"	6"×6"×	18'	16	1"ϕ × 2'-0"		
4	"	8"×8"×	22	26 –	⅝"ϕ × 0'-11½" Carriage Bolts		
1	"	" " ×	8'				

GENERAL NOTES

All lumber shall be 1600#f, 1200#c, 1,600,000#E grade and surfaced four sides to ⅛" less than the nominal size (except vertical dimension of laminated deck) All truss lumber including cross frames shall be cut, bored, (except holes 'A') and grooved in the shop; then given an eight pound per cubic foot treatment of creosote oil by the empty cell process. All other lumber shall be given a ¾ lb. per cubic foot treatment of chromated sodium chloride after all shop work has been completed; then open piled under cover until thoroughly dry. Holes in the laminated deck and holes 'A' in the truss shall be bored in the field and swabbed with hot creosote oil All other boring and cutting shall be done before treatment.

All hardware shall be galvanized

Exposed metal in the trusses shall be given two coats of a paint consisting of red lead, linseed oil and graphite Railing, curb, and exterior exposed faces of deck shall be painted with two coats of white lead and linseed oil.

Design loading H-15 Equivalent uniform load

TIMBER ENGINEERING COMPANY
WASHINGTON, D. C.

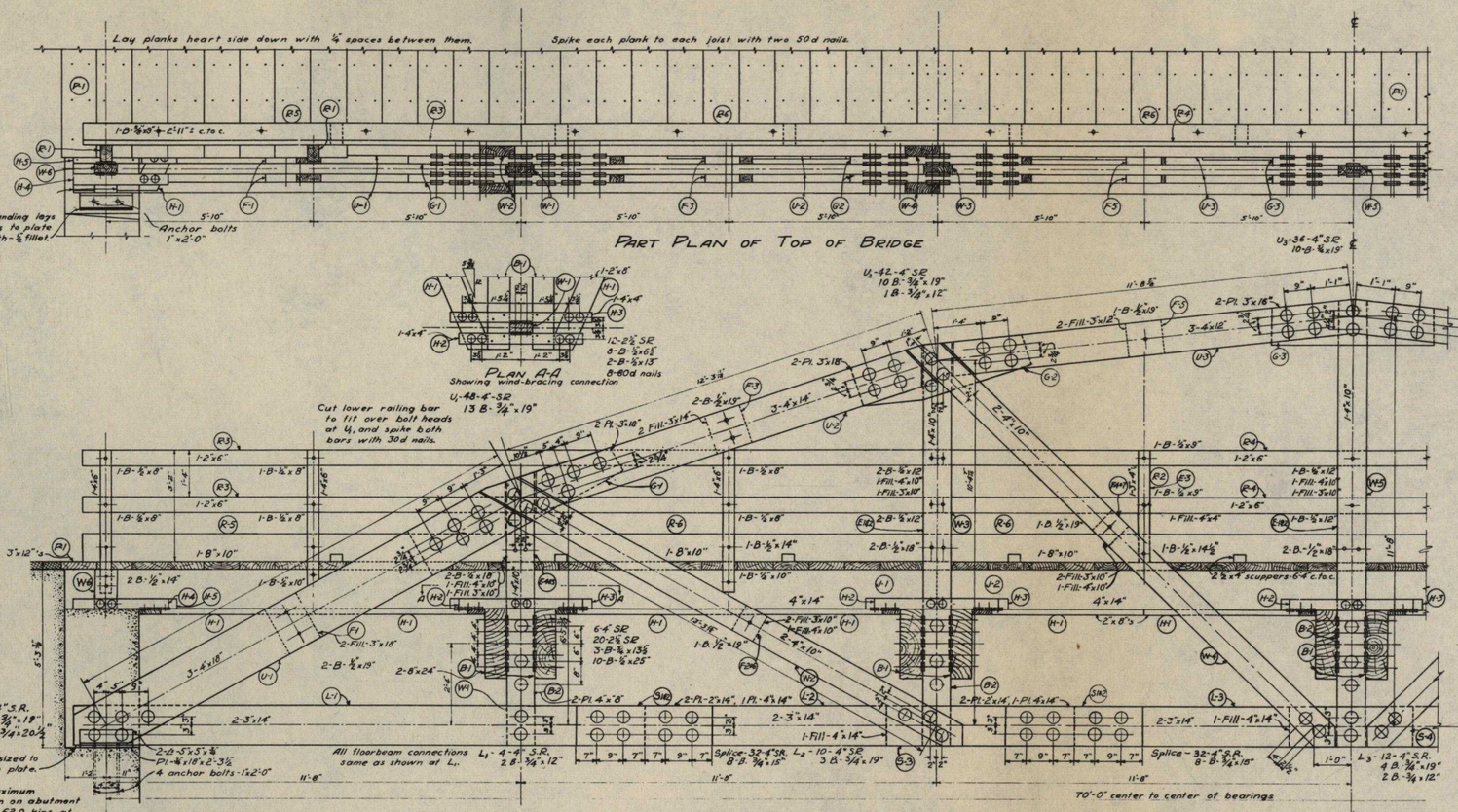
70'-0" DOUBLE WARREN

H-15 LOADING 18'-0" ROADWAY

SCALE 1/2" = 1'-0" SHEET 1 OF 1

DATE	DRAWING No.
DESIGNED BY E.H.McBroom 8/39	B-7
CHECKED BY J.H.C. & D.S.H. 10/39	
TRACED BY E.H.McBroom 8/39	

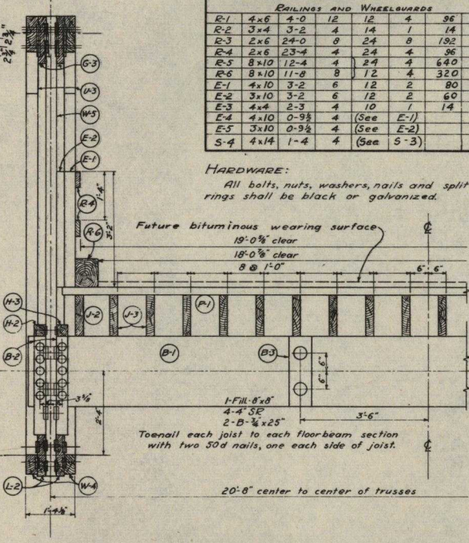
Revised H.M. 1/10/40 J.H.C.



PART PLAN OF TOP OF BRIDGE

HALF ELEVATION OF BRIDGE

PART PLAN OF BOTTOM OF BRIDGE



HALF CROSS-SECTION OF BRIDGE AT CENTER

LUMBER CUTTING BILL

Piece Mark	Size	Length	Make	Cut From	Order	Footage B.M.
Two Trusses						
U-1	4"x18"	14'-3"	12	16	12	1152
L-1	3"x14"	15'-6"	4	16	4	224
U-2	4"x14"	12'-0"	12	12	12	672
U-3	4"x12"	11'-7"	12	12	12	576
L-1	3"x14"	16'-0"	8	16	8	448
L-2	3"x14"	12'-0"	8	12	8	336
W-1	4"x10"	7'-3"	4	16	2	107
W-2	4"x10"	15'-4"	8	16	8	427
W-3	4"x10"	11'-6"	4	12	4	160
W-4	4"x10"	16'-6"	8	18	8	480
W-5	4"x10"	12'-9"	2	14	2	94
W-6	4"x8"	1'-2"	4	6	1	16
G-1	3"x18"	6'-2"	8	14	4	252
G-2	3"x18"	4'-10"	8	20	2	180
G-3	3"x16"	4'-6"	4	18	1	72
S-1	4"x14"	3'-10"	8	16	2	150
S-2	2"x14"	3'-10"	16	16	4	150
F-1	3"x18"	1'-0"	8	8	1	36
F-2	3"x10"	0'-8"	8	6	1	15
F-3	3"x16"	1'-0"	8	8	1	28
F-4	3"x10"	0'-8"	8	6	1	15
F-5	3"x12"	1'-0"	8	8	1	24
F-6	4"x10"	0'-8"	4	(See W-2)		
F-7	4"x10"	0'-8"	4	(See W-4)		
S-3	4"x14"	1'-0"	4	10	1	47
Railings and Wheelguards						
R-1	4"x6"	4'-0"	12	12	4	96
R-2	3"x4"	3'-2"	4	14	1	14
R-3	2"x6"	24'-0"	8	24	8	192
R-4	2"x6"	23'-4"	4	24	4	96
R-5	8"x10"	12'-4"	4	24	4	640
R-6	8"x10"	11'-8"	8	12	4	320
E-1	4"x10"	3'-2"	6	12	2	80
E-2	3"x10"	3'-2"	6	12	2	60
E-3	4"x6"	2'-3"	4	10	1	14
E-4	4"x10"	0'-9¾"	4	(See E-1)		
E-5	3"x10"	0'-9¾"	4	(See E-2)		
S-4	4"x14"	1'-4"	4	(See S-3)		

Piece Mark	Size	Length	Make	Cut From	Order	Footage B.M.
Floor Beams and Joists						
B-1	8"x24"	21'-11"	10	22	10	3520
B-2	4"x10"	2'-9"	20	14	4	187
B-3	8"x8"	1'-11½"	10	20	1	107
J-1	4"x14"	24'-6"	4	26	4	486
J-2	4"x14"	23'-4"	2	24	2	224
J-3	4"x14"	26'-0"	54	26	54	6552
Floor Plank						
P-1	3"x12"	20'-0"	76	20	76	4,560
Wind Bracing						
H-1	2"x8"	24'-0"	12	24	12	384
H-2	4"x4"	3'-6"	10	14	3	56
H-3	4"x4"	4'-0"	10	12	4	64
H-4	4"x4"	2'-8"	4	(See H-2 & H-3		
H-5	4"x4"	2'-11"	4	10	1	14
				Total		23,327

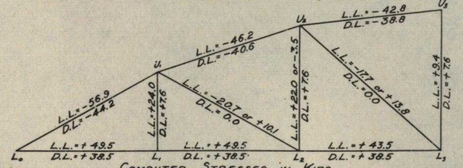
HARDWARE BILL

Item	Size	Quantity
Two Trusses		
Teco Split Rings	No. 2-4"	848
Bolts, square head with nuts	¾"x 12"	16
	¾"x 20½"	8
	½" x 19"	28
	⅞" x 18"	144
	⅞"x 15"	64
Washers, C.I. -O.G.	⅞"x 2½"	56
	⅞"x 3½"	464
Angles	5"x5"x⅜"x6'-6"	8
Plates	⅜"x18"x2-3½"	4
Anchor Bolts	1"x 2'-0"	16
Railings and Wheelguards		
Bolts, square head with nuts	⅝" x 8"	24
	x 9	8
	x10	8
	x12	20
	x14	20
	x14½	4
	x16	20
	½"x 5"	48
Washers, W.I. -round flat	⅝"x 1⅜"	208
	⅝"x 1⅞"	96
Nails	4" or 30d	2 lbs.
Floor Beams and Joists		
Teco Split Rings	No.1 -2½"	200
	No.2 -4"	100
Bolts, square head with nuts	⅞"x 25"	100
	¾"x 13½"	30
	x25	20
Washers, C.I. -O.G.	½"x 2½"	200
	⅝"x 3¼"	100
Floor Plank		
Nails	5½" or 50d	350 lbs.
Wind Bracing		
Teco Split Rings	No.1 -2½"	152
Bolts	½"x 6½"	96
	x13	28
Washers, C.I. -O.G.	½"x 2½"	248
Nails	4" or 30d	20 lbs.
	8" or 60d	20 lbs.

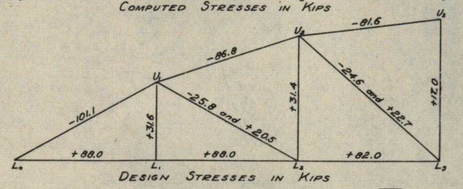
HARDWARE:
All bolts, nuts, washers, nails and split rings shall be black or galvanized.

DEAD LOAD ASSUMPTIONS:

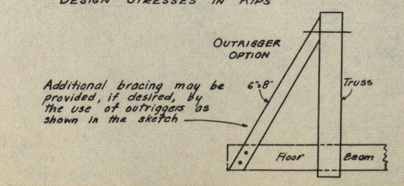
The weight of lumber was assumed to be 60 lbs. per net cu. ft. The design provides for the weight of a future wearing surface at 10 lbs. per sq. ft. The weight of each truss per ft was assumed to be 2.4 times the span in feet.



COMPUTED STRESSES IN KIPS



DESIGN STRESSES IN KIPS



LUMBER SPECIFICATIONS:

All lumber shall be of a dense structural grade, S4S, American Standard dressed sizes. Stress-grades shall be provided as follows for the lumber listed under the corresponding headings in the lumber cutting bill:

Trusses	1400#f and 1000#c
Railings and Wheelguards	1400#f
Floor Beams and Joists	1600#f
Floor Plank	1400#f
Wind Bracing	1400#f and 1000#c

The above stress-grades shall conform to the National Lumber Manufacturers Association specifications.

All lumber shall be pressure treated with creosote oil using the empty-cell process as specified for the various species in the Standard Specifications for Highway Bridges of the American Association of State Highway Officials. All cuts, bolt holes and connector grooves shall be made before treatment.

CONNECTORS:

Split rings shall be Teco split rings as manufactured by the Timber Engineering Company, and shall be fabricated according to the specifications of that company as given in its "Manual of Timber Connector Construction".

CAMBER:

The dimensions shown provide for a parabolic camber of 1⅛" at the center of the span.

LOADING AND SPAN:

This bridge is designd for H-15 truck-train wheel loadings.

The span center to center of bearings is 70'-0".

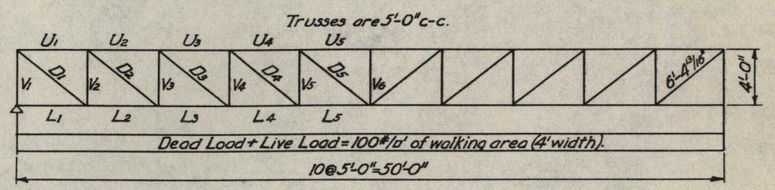
TIMBER ENGINEERING COMPANY
WASHINGTON, D. C.

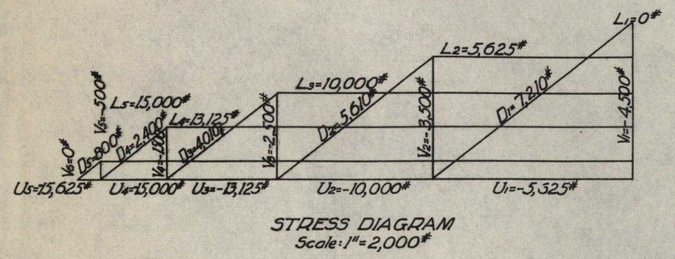
70'-0" PONY TRUSS
H-15 LOADING 18'-0" ROADWAY

SCALE ½"=1'-0" SHEET 1 OF 1

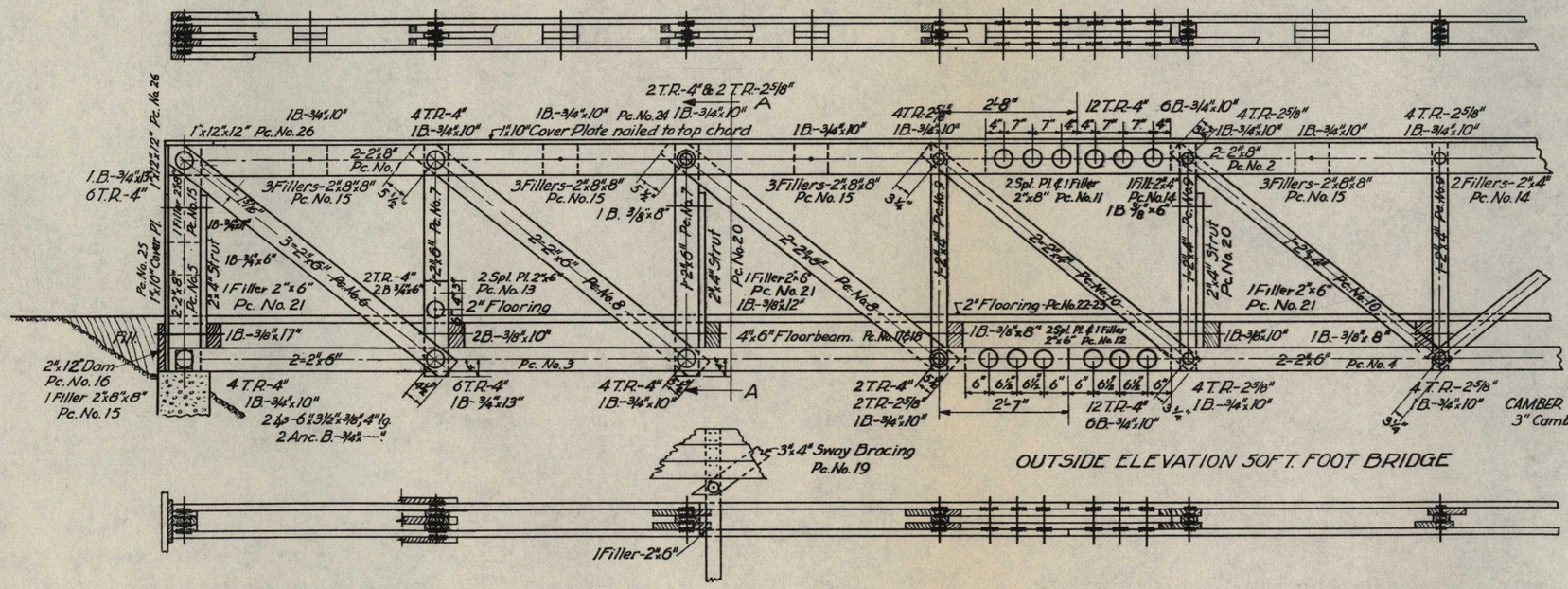
DATE	DRAWING NO.
DESIGNED BY R.W. Purchase 8/39	B-9
CHECKED BY J.H.C. & D.S.H. 10/39	
TRACED BY R.W. Purchase 8/39	

Revised N.M. 1/30/40 J.H.C.





STRESS DIAGRAM
Scale: 1"=2,000#



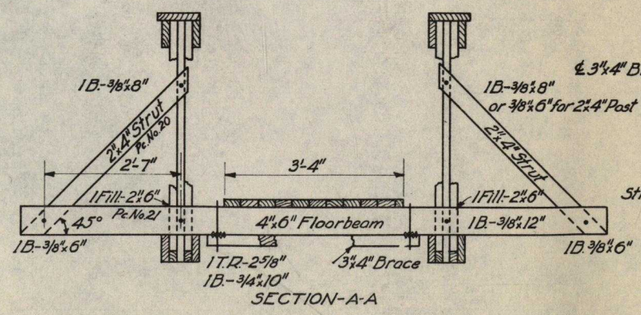
OUTSIDE ELEVATION 50FT. FOOT BRIDGE

50'-0" FOOT BRIDGE

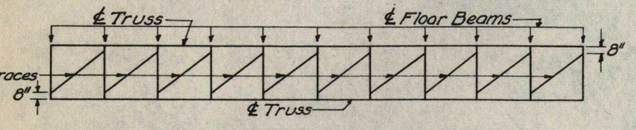
Scale: 3/4" = 1'-0"

0 1 2 3

Scale in Feet



SECTION-A-A



SWAY BRACING LAYOUT

Struts and floorbeams shall be nailed in excess of bolts, wherever possible, in order to obtain increased rigidity.

NOTES:

GENERAL.

All timber shall be pressure treated with an approved wood preservative. All metal shall be galvanized. Bolts, if possible, should be placed with their heads next to the walking area. Concrete piers to be designed as conditions warrant.

LUMBER

Lumber shall be of a structural grade with minimum allowable working stresses in lbs. per sq. in. as follows:

880# Compression parallel to grain.
1,200# Extreme fiber in bending.
1,600,000# Modulus of elasticity.

Allowable unit working stresses for commercial grades of lumber are given in the leaflet entitled "Working Stresses for Structural Lumber and Timber" or are available from the Regional Lumber Manufacturers Associations.

TIMBER CONNECTORS.

Connectors shall be TECO toothed rings as manufactured by the Timber Engineering Company, Washington, D.C.

MATERIALS LIST - COMPLETE BRIDGE

LUMBER CUTTING BILL

Mk.	Size	Length	Make	Cut From	Order	F.B.M.
1	2"x8"	18'-0"	8	18'-0"	8	192
2	2"x8"	14'-6"	4	24'-0"	4	128
3	2"x6"	17'-10"	8	18'-0"	8	144
4	2"x6"	14'-10"	4	16'-0"	4	64
5	2"x8"	4'-8"	8	Pc. No. 2		
6	2"x6"	7'-3"	12	12'-0"	12	144
7	2"x6"	4'-8"	8	10'-0"	4	40
8	2"x6"	7'-4"	16	16'-0"	8	128
9	2"x4"	4'-6"	10	18'-8"	2/3	2/3
10	2"x4"	7'-0"	12	12'-0"	12	96
11	2"x4"	3'-8"	12	12'-0"	4	32
12	2"x6"	4'-2"	12	Pc. No. 6		
13	2"x6"	2'-0"	8	16'-0"	1	16
14	2"x4"	0'-7 1/2"	8	Pc. No. 9		
15	2"x8"	0'-8"	52	18'-0"	2	48
16	2"x12"	6'-0"	2	12'-0"	1	24
17	4"x6"	6'-0"	5	6'-0"	5	60
18	4"x6"	11'-0"	6	22'-0"	3	132
19	3"x4"	6'-9"	10	14'-0"	5	70
20	2"x4"	4'-6"	12	Pc. No. 10		
21	2"x6"	0'-6"	12	Pc. No. 6		
22	2"x4"	10'-6"	17	12'-0"	17	136
23	2"x4"	10'-0"	39	10'-0"	39	273
24	1"x10"	10'-0"	10	10'-0"	10	90
25	1"x10"	3'-7 1/2"	4	16'-0"	1	14
26	1"x12"	1'-0"	8	8'-0"	1	8

Total F.B.M. - 1873

CONNECTORS

No.	Item	Size
100	Toothed Rings	2 5/8"
216	" "	4"

HARDWARE

No.	Item	Size
16	Machine Bolts	3/8"x6"
10	" "	3/8"x8"
8	" "	3/8"x10"
4	" "	3/8"x11"
4	" "	3/8"x12"
4	" "	3/8"x17"
12	" "	3/4"x6"
120	" "	3/4"x10"
8	" "	3/4"x13"
92	Plate Washers	1 1/2"x1 1/2"x1/8"
272	" "	3 1/2"x3 1/2"x3/8"
8	Angles	6"x3 1/2"x3/8"-4" lg
8	Anchor Bolts	3/4"x--"

Typical design for use of Engineers and Architects.

TIMBER ENGINEERING COMPANY
WASHINGTON, D. C.

FOOT BRIDGE
SPAN-50'-0" WALK-4'-0"

SCALE 3/4"=1'-0" SHEET 1 OF 1
TRACED BY W. ADAM DATE 8/23/37
DESIGNED BY J. CARR 4/2/37
CHECKED BY ADAM & F.P.C. 9/20/37
DRAWING NO. 220 O.K.

REVISED 9/20/37 Rev. N.M. A.G.D. 12/2/41

LUMBER

LUMBER SHALL BE OF A STRUCTURAL GRADE WITH MINIMUM ALLOWABLE WORKING STRESSES IN LBS PER SQ IN AS FOLLOWS:

1200 # EXTREME FIBER IN BENDING
1000 # COMPRESSION PARALLEL TO GRAIN
1,600,000 # MODULUS OF ELASTICITY

CONNECTORS

CONNECTORS SHALL BE TECO 2½" SPLIT RINGS & 2⅝" SHEAR PLATES AS MANUFACTURED BY THE TIMBER ENGINEERING COMPANY, WASHINGTON, D.C.

PLAN OF PLATFORM

DETAILS OF BASE OF TOWER

SECTION F-F

SECTION G-G

SCALE: 1"=1'

ELEVATION FACE A

SECTION A-A

SECTION B-B

SECTION C-C

SECTION D-D

SECTION E-E

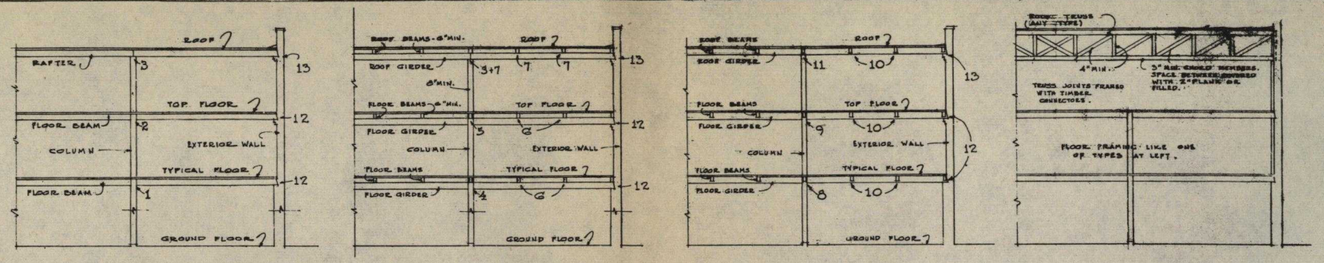
TYPICAL JOINT DETAIL

LINE DIAGRAM SHOWING SYSTEM OF FRAMING

NOTE
SYSTEM OF BRACING IS SAME ON FACES A, B, C, & D EXCEPT THAT FACE A DIAGONALS ① & ② EXTENDED AND FASTENED TO EXTENSIONS OF HORIZONTALS, ③ & ④ IN ORDER TO FORM OUTRIGGER

These dimensions are slope dimensions along ℄ of columns

TIMBER ENGINEERING COMPANY WASHINGTON, D. C.	
50 FOOT BEACON TOWER WITH WIND CONE SUPPORT	
SCALE ½" = 1 Foot SHEET 1 OF 1	
DESIGNED BY E.S.L. CHECKED BY D.W. TRACED BY D.W	DATE 8-12 8-20-42
DRAWING No.	460



ONE WAY BEAM FRAMING
PLANK OR LAMINATED FLOORS

TWO WAY- BEAM & GIRDER FRAMING
BEAMS SUPPORTED ON GIRDERS

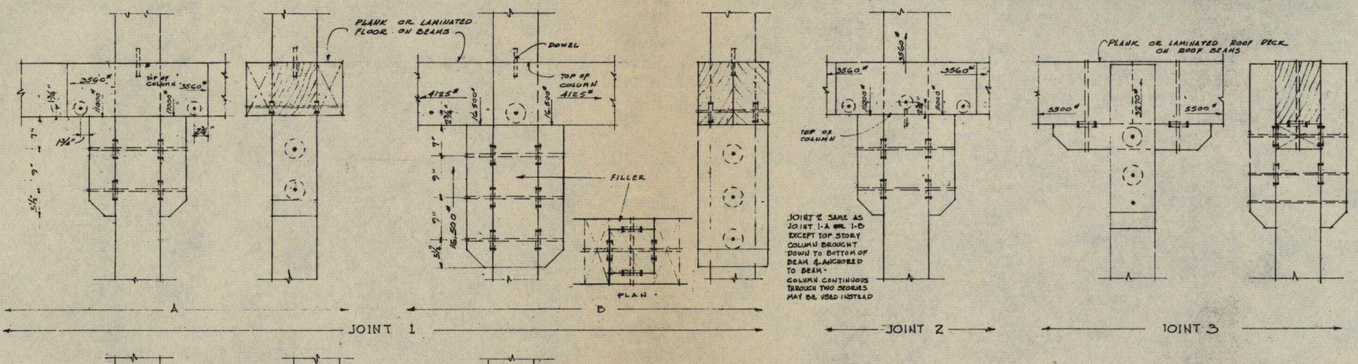
TWO-WAY BEAM & GIRDER FRAMING
BEAMS FRAMED INTO GIRDERS

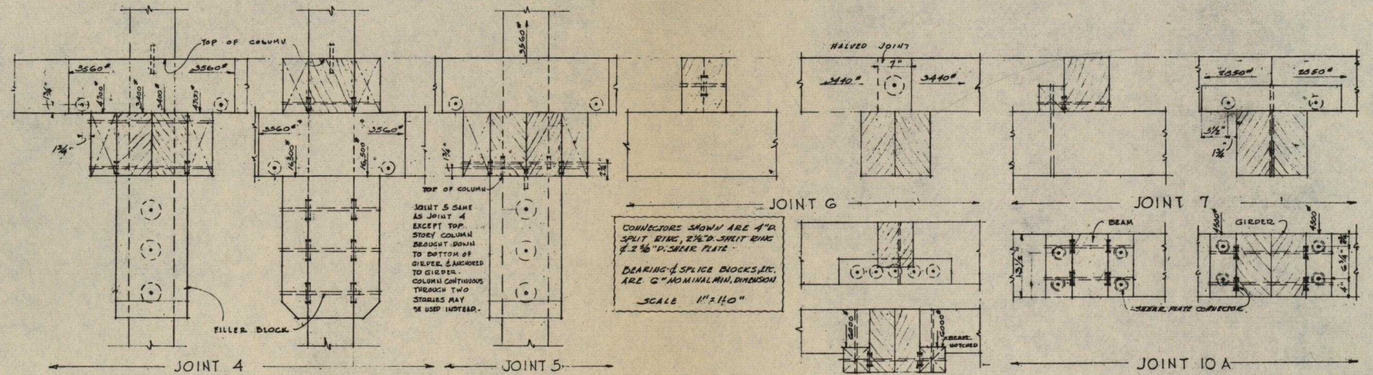
TRUSSED ROOF FRAMING
TO TOP FLOOR COLUMNS

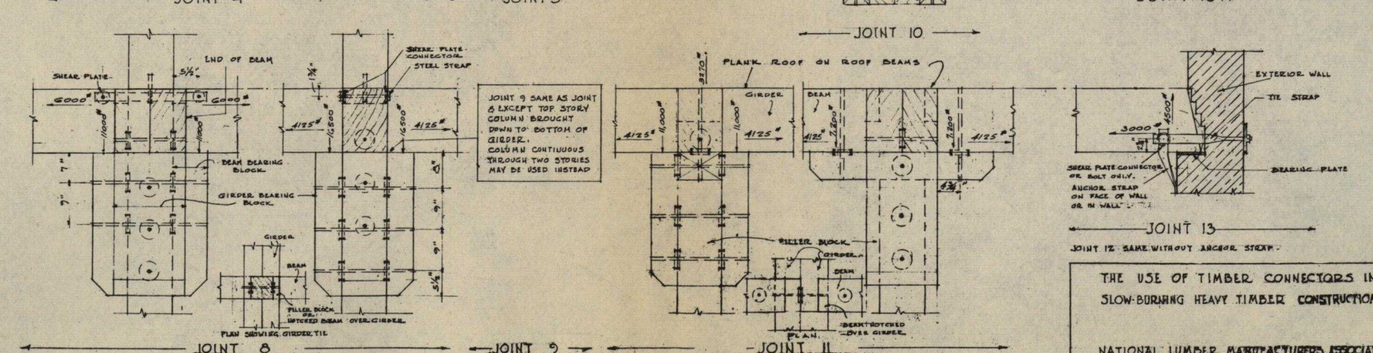
DIAGRAM SECTIONS OF TYPES OF SLOW-BURNING, HEAVY TIMBER CONSTRUCTION

SHOWING LOCATION OF TIMBER CONNECTOR JOINTS.
(EXTERIOR WALL CONSTRUCTION & THICKNESS; BEAM-BEARING PLATES OR BOXES; CORNICES OR PARAPET WALLS; TIMBER SIZES; ETC. SHALL CONFORM TO THE REQUIREMENTS FOR HEAVY TIMBER CONSTRUCTION.)

ALL VERTICAL LOADS TRANSFERRED BY MEANS OF METAL CONNECTORS PROTECTED BY HEAVY TIMBER FRAMING MEMBERS.
ROOF BEAMS & TOP FLOOR COLUMNS ANCHORED AGAINST UPLIFT.
ALL BEAMS & GIRDERS TIED END TO END & ANCHORED TO EXTERIOR WALLS.
LOADS SHOWN ARE RECOMMENDED MAXIMUM LOADS FOR CONNECTORS SPACED AND ARE INCLUDED FOR ILLUSTRATION ONLY.







JOINT 12 SAME WITHOUT ANCHOR STRAP.

THE USE OF TIMBER CONNECTORS IN SLOW-BURNING HEAVY TIMBER CONSTRUCTION

NATIONAL LUMBER MANUFACTURERS ASSOCIATION
DEC. 2, 1936

Teco Services

In order to assist users of structural lumber and the Teco timber connector system of construction, the Timber Engineering Company maintains the following services.

Order Service

A complete line of Teco connectors and tools are maintained for prompt shipment to customers supplying priorities. These connectors and tools are manufactured to rigid designs and specifications so that customers can be assured of receiving quality products at all times.

Consulting Service

Teco maintains a staff of engineers to consult with architects and engineers on their design problems. In addition to our Washington staff, the New York, Chicago, Minneapolis, New Orleans, San Francisco and Portland offices of the National Lumber Manufacturers Association and the Timber Engineering Company have engineering consultants available. Our distributors, and fabricators in all parts of the country also render helpful services to architects and engineers.

Design Data Service

Teco and its parent—the National Lumber Manufacturers Association—have available for distribution to architects and engineers complete and up-to-date data on all phases of timber design. This literature includes tables and charts on timber beams, columns, joists and rafters, plank floors, heavy mill construction, connector loads, bolt loads, commercial grades and stresses, etc. Also, information is supplied as to recommended design procedures.

Typical Design Service

"Typical Designs of Timber Structures" contains only a representative group of the typical designs available from Teco. There are over 200 other designs in Teco's file and copies of these are available on request to architects and engineers. Teco is continually adding to this file of designs, which are prepared as guides to architects and engineers in the preparation of their own designs.

Research Service

Teco is continually conducting research and sponsoring research at outstanding engineering colleges and laboratories. This research is conducted to increase the design knowledge of timber designers. The benefits and results of this research are passed on to interested parties in the form of design data and improved products.

Specify **TECO** *Connectors and Tools*

3-43-20M